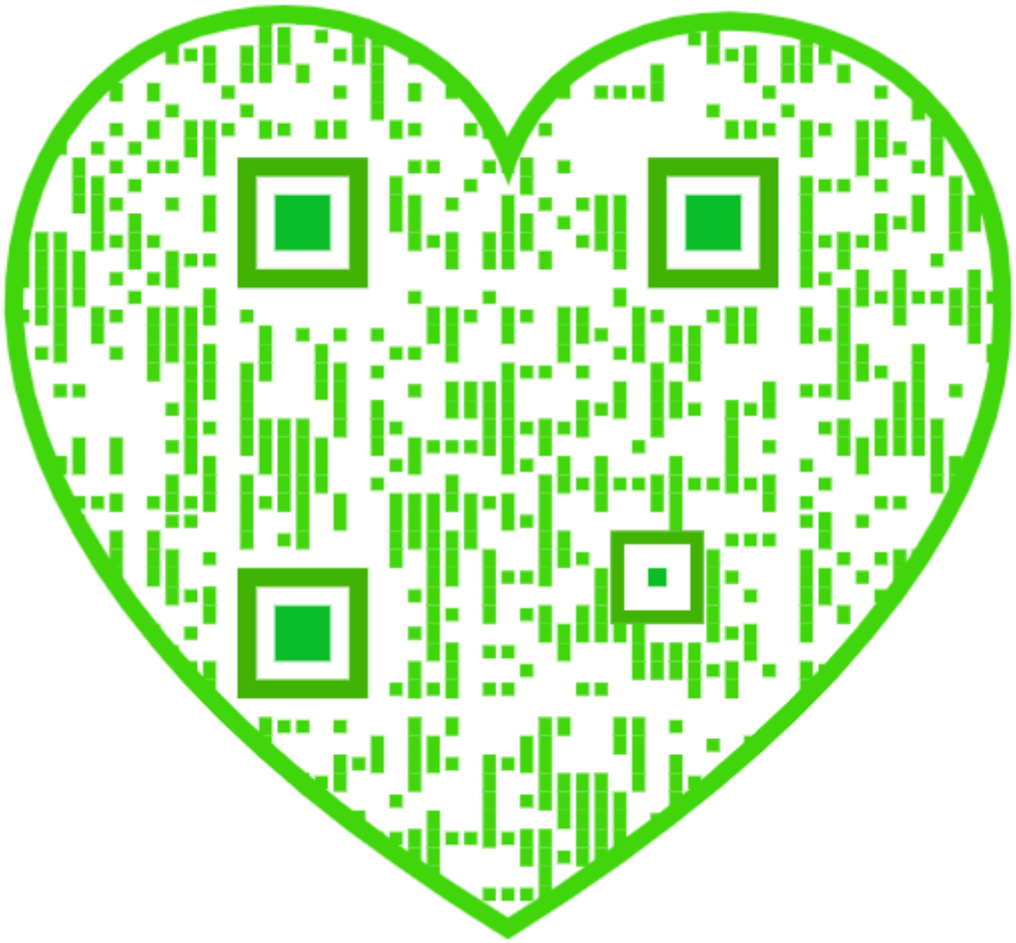

ARCHITECT AND ENGINEER

OCTOBER 1942

Oakland Builds Three Low Rent Housing Projects
Post-War Planning for the Construction Industry
War Time Housing in Defense Areas
State Housing Conference Adopts Post-War Program

Pacific Paint and Varnish Products

USED ON THESE OAKLAND HOUSING PROJECTS

ABOVE — TWO OF THE 372 UNITS OF LOCKWOOD GARDENS. Claude Yelton Paint Co., Oakland, painting contractors.

RIGHT — CAMPBELL VILLAGE, 155 UNITS. M. Cohn Company, San Francisco, painting contractors.

BECAUSE they were well designed and well built, Oakland's three low rent housing projects are commanding nation wide interest . . . BECAUSE better than the average materials for this class of construction were specified, is why Pacific Paint and Varnish products were used on the two projects illustrated above.

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NEXT MONTH

Two buildings, widely different in style, but equally important to the University of California, have recently been completed in Berkeley. One is the University Administration Building which Arthur Brown has designed and which reflects the same fine feeling for the classic that has characterized his other works.

Very different in design and character is Mr. Wurster's girls' dormitory back of the compus, dedicated a few weeks ago and likely to provoke expressions for and against its rather extreme modern tendencies. Because the landscaping is incomplete Mr. Wurster has asked us to delay publication for awhile (probably until December) so our plans to present both buildings in the same issue have been altered and only Mr. Brown's building will be illustrated next month.

Added interest in this number will be an excellent selection of the recent work of Messrs. Lawrence, Holford & Allyn, architects of Portland, Oregon, which includes the University of Oregon Medical School, Library and Hospital and the Victory Housing Project of 1,000 dwelling units at St. Johns.

HAWS SERVES THE MEN IN THE SERVICE . . . . .

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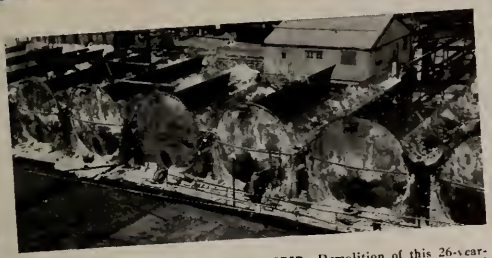
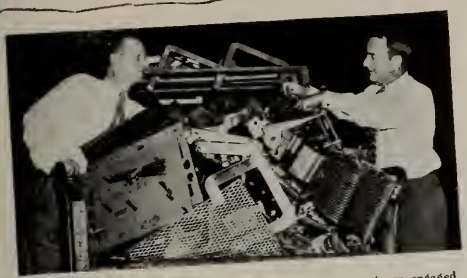
NEWS from the Scrap Front

TIPS FROM OTHER "WASTE WARDENS" THAT MAY HELP YOU DO A BETTER JOB OF "GETTING IN THE SCRAP"



WRECKS ASPHALT PLANT TO GET WAR SCRAP—Demolition of this 26-year-old asphalt plant by an eastern refining company is yielding over a thousand tons of precious scrap, enough to make the steel for 70 "General Lee" tanks . . . *Do you have any steel structures, idle now and of doubtful future value, which should be wrecked to release the scrap metal they contain?*



NO HOARDING HERE—A midwest novelty manufacturer (now engaged in war work) recently turned in over two million pounds of metal parts, tools and machinery at scrap metal prices . . . *Are you holding idle stocks of obsolete and useless metal parts and equipment for some uncertain future need?* In most cases they're worth more now to your country as scrap than they'll ever be to you.

SEGREGATION MINIMIZES SCRAP LOSS—A western aircraft plant has more than doubled its scrap collectinns through a systematic salvage program, directed from a central office. All metal scrap is segregated into solids and machinings, and also by alloy content, right at the machines. Scrap containers are color-banded and labeled to clearly identify what goes into each . . . *Have you organized an efficient scrap collection system at your plant? Does it provide for careful segregation?*

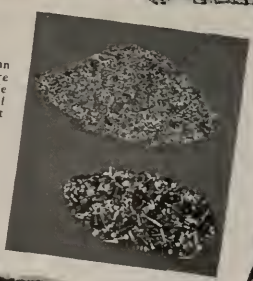
THE SCRAP IS COMING IN . . . BUT NOT FAST ENOUGH!

WE have proof that industry is cooperating in the drive for scrap metals . . . proof measured in thousands of tons. But mills must get *more* iron and steel scrap if they are to meet the gigantic needs of war industry.

Don't forget . . . steel gets to work on the battlefront more quickly when plenty of scrap is available. Scrap is already metallic; therefore, less ore needs to be converted into pig iron per ton of steel produced. By remelting scrap to make new steel, more tons of high-quality products can be turned out in a hurry for war purposes. So make it your personal war assignment to see that your organization does a thorough, continuous job of "getting in the scrap." Cooperate closely with your local Industrial Salvage Committee.

FLOOR SWEEPINGS ARE "PAY DIRT"

Every day sweepings at an eastern war plant yield more than 1000 pounds of usable small parts and a big pile of scrap metal. Janitors silt sweepings through wire mesh. Then magnetic separators and mechanical sorting devices finish the job. Usable parts then go back to stock, and scrap is shipped for salvage . . . *Are you cleaning every pound of metal from your floor sweepings?*



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UNITED STATES STEEL

RUNNING FIRE — By MARK DANIELS, A. I. A.

• *CIVILIZATION*

Sometimes if you can't define a thing because you can't tell what it is, you can clarify the picture by telling what it is not. Civilization is one of those "things." Contentions that civilization is this or that, according to the date of the dictionary used to define the word, leaves most of us still wondering what it is all about. Arguments that civilization reached its zenith at one period or another all have weight if they are predicated upon the assumption that the conditions obtaining at the time chosen were essentials of civilization. On such an hypothesis one might, and should, select the days of the Tang dynasty in China, or skip a thousand years and stop at the sign of the Aztecs in Mexico, or at medieval times when so many great artists and architects were bunched into a period of half a century. But this still leaves us asking what civilization is and why we are continually harping about it if we don't know what it is.

Well, there really is no definition of civilization that will meet everyone's approval. It is not a thing empirical to be defined like a pint or a pound, a stick or a stone. It is made up of many elements and its composition is in a constant state of flux, aided and abetted therein by that greater flux in what we so boastfully call the human mind. We all believe that happiness is the prime desideratum but when we are told that what is happiness for one may be misery for another we're right back where we started. So there is nothing to do but tell some of the things that civilization is not.

Now I don't presume to know all of these things but here are some of the old features that long experience has taught me can be eliminated:

The degree of civilization is not proportional to the number of complications, speed and gadgets that can be crammed into life no matter what the advertisers say;

Nor is it proportional to the amount of noise that the human animal can make in groups;

Nor to the number of politicians extant at the time;

Nor to strikes;

Nor radio crooners;

Nor -- what's the use; we never have had any civilization and probably never will.

• *RHYMING*

I may have told you this before. Try to stop me if I did.

Some years ago I won a bottle of wine in Puerto Barios for finding a rhyme for Guatemala. Here it is.

Black or white I will not have 'er;
To me she's just one more cadaver
If she can't shake her bottom a la
Dancing girls of Guatemala.

• *THE ARCHITECT*

It is not so much that the architect is passing, but that the architect AS WE KNEW HIM is passing. If this war should result in the utter abandonment of hats and head coverings no doubt the hat makers would be forced out of business, in which case they might become hair dressers and bend their artistic talents to designing tonsures and other ornamental, though natural methods of scalp protection. They might even cling to the old name of "hat makers" for a while, all of which would probably be a blessing. Time was when all barbers were doctors. They did all the blood letting as well as midwifery. Now it is almost impossible to find a doctor that is even a good barber.

The same seems to be holding true of the architects. The old school architects who gloried in pure design, in schools of ornament, in the history and traditions of architecture, who knew every element and order from the Amphithalmus to the Zotheca are bowing gracefully and giving place to a new type of architect who doesn't know a triglyph from a fig leaf and doesn't care. He is going to build a building that he thinks will do the physical job and let people look at it until they like it. He is going to throw away the hats and use what nature provided. He's going to quit barbering and start doctoring.

Well, that's what a long war does to us sometimes.

• *STANDARDIZING*

While the bureaus in Washington are at it standardizing everything from ornament to temperament, from flying ships to April showers, it is a pity they cannot take a little time to standardize sizes, shapes and methods of construction, such as screw threads, locks, and bolts and nuts, even if Mr. Hoover did start it over ten years ago!

• *HOUSING*

Quite some years ago the housing movement started. Like all worthy movements it had to be sort of promoted. Finally it took form and began to command notice and attention. Housing associations sprang up, were organized and officers elected, frequently by the good old American method of letting every member of the association cast a vote for officers, there being but one name for each office on the general ballot. Anyhow, the housing associations got going.

Next, Housing Authorities were appointed, or elected, or just established. Some of them were forward looking with an ambition to build up their city, some were bent on slum clearance and some soon broke the chrysalis and emerged as out and out real estate operators. At the same time the government was forced to fall in line and a lot of money was appropriated and the housing associations and some appointed Authorities settled back to see their dreams or schemes carried out. Then the real wire pulling began. But, suddenly a war burst "right in their face and hands," and a real problem arose, like a genii in the desert.

The housing movement has developed until it represents huge sums, or possible sums, of money. Without going into a lengthy presentation of the merits or otherwise, of the need of this money to house workers the main problem boils down to whether it is better to spend this money to better the living conditions of the workers or to spend it for guns and ammunition for the soldiers. Some say that if we don't keep the workers contented they won't make guns. Others reply that if we don't have guns we can't win the war. It is like the race around a block by two men, and their decision as to how to determine the winner. Finally one proposed that he would run around one way and the other in the opposite direction. If he were to get there first he would make a chalk mark on the sidewalk. If the other got there first he would rub it out. Perhaps it woud be better to win the war first.

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THEATRE AND DANCE SHOW EXTENDED AT DE YOUNG

The "Theatre and Dance" show which has been an outstanding event at de Young's Museum, has been held over until the middle of November. The exhibition is proving a hit with the many stage-struck visitors who wander through its seven full galleries of display. The entrance hall is gay with colored posters (from the Library of Congress collection) depicting those time-honored melodramas "Uncle Tom's Cabin" and "The Great Train Robbery," to say nothing of the old minstrel shows and Hurly Burly Extravaganzas—or as they said in the good old days, "refined vaudeville." Between these are posted playbills and programs and rare old lithos of yesterday's favorites.

From then on the show begins in earnest—taking us first back to the earliest theatres, the Greek and Roman colosseums, through the Middle Ages and the Renaissance where a model of the Globe Theatre shows the striking difference between the playhouses of Shakespeare's time and our own. Next we step into the Baroque and Rococo stages, well illustrated in a single room by original theatre designs and scenes and figures from the Commedia del Arte which, incidentally, are a loan from Max Reinhardt. We enter the theatre of Naturalism, the stage "ism" of the 19th century. Here the great names of Coquelin, Duse and Mansfield are recalled—the first two by portrait sketches from the George Altman collection, the last by costumes worn by the late matinee idol and his actress-wife in many roles.

We're now ready for the theatre of today, well illustrated by Norman Bel Geddes (whose "Miracle" sketches are shown), Mordecai Gorelik, Eugene Berman and Moholy-Nagy; a complete show, including models, "The Development of Stage Design;" costumes worn in productions at the Pasadena Playhouse and Stanford University; costumes worn also by Rudolph Valentino as "The Shiek" and "Monsieur Beaucaire;" a John Barrymore Memorial Corner (the newest addition to the show); a display showing the set-up of this city's French Theatre of Andre Ferrier; designs for the San Francisco Opera; costumes and stage sketches by the local artist, Jane Berlandina; the Moscow Art Theatre and theatres of the U.S.S.R. today in picture form; and the half-size model by Waldemar Johansen for the Saroyan play, "The Beautiful People."

The "Dance" end of the show is not neglected and contains such excellent material as original costume and scene designs by American and European artists. The names of Berard, Lurcat, de Chirico, Soudekine, Berman, Lee, Watkins and Colt are "among those present," with designs for ballets performed by the Ballet Russe and Ballet Caravan. "The Dance in Movement" from the Museum of Modern Art shows in split-second photos the Markovas, Grahams and Drapers in action.

On the exotic side—the theatres and dances of the Orient: the shadow puppets and magnificent costumes of China, the make-up and masks of the Noh and Kabuki dramas of Japan; the masks and regalia of the dancers of Java and Bali (thanks to the author, Vicki Baum)—of the Eskimo and the American Indian—these are all to be seen.

PLAY: Shakespeare's Twelfth Night
SCENE: A Street in Illyria
SETTING: Designed by Eugene Berman
One of a group of original stage and ballet designs shown during the current exhibition, "Theatre and Dance" at de Young Museum.

EARLY AMERICAN PAINTINGS NOW AT DE YOUNG MUSEUM

The de Young Museum has delved into the pages of our country's past to present its new addition to the galleries during the current month. From the Newhouse Galleries, New York, comes an exhibition of Twenty-five Paintings from the Revolution to the Civil War.

These paintings were chosen from among many —not because of their masters' fame, but for the spirit within the works themselves, with little heed paid to the "John Henrys" attached thereto. And so the exhibition is a conglomeration of "names," unknowns and little-known artists who may have heretofore received little mention in the American scene. The reason for such a choice was to present, through this comparatively small group, an insight into native American art of the first half of the 19th century, an art that caught the capacity of a budding nation for feeling directly, honestly—and youthfully, qualities which the real America has always possessed.

N AN EVER CHANGING WORLD

All twenty-five paintings are oils, but the range in subject matter is wide: the inevitable still lifes, with an abundance here of colorful bowls of nuts and fruit and a particularly luscious "Slice of Watermelon" by Sarah Peale; rural outdoor scenes catching the spirit of our ancestors as they went about their social life, such as Jeremiah Hardy's fanciful "Picnic in the Woods of New England"; a group of children's portraits, one by the artist, Thomas Sully; early landscapes and seascapes of eastern farm and coastal scenes; and a few historical paintings such as Edward Savage's report of General Washington reviewing his troops at Fort Cumberland, Maryland. (See cut.)

All in all this new exhibition is a delightful glimpse into the life of the new America—from its first struggle to become a free nation to the second great conflict to unite within itself—as told in its native and folk art of those periods.

HEAD OF S. F. ART SCHOOL WINS NATION-WIDE CONTEST

A San Francisco architect, Eldridge T. Spencer, was one of the 408 prize winners in the nation-wide 2½ year $200,000 scientific welding study program sponsored by The James F. Lincoln Arc Welding Foundation, Cleveland, Ohio. Mr. Spencer's subject matter which earned him a $1500 award, was an office chair which was functional and modern in appearance, adjustable in height and back support, movable, compact and economical in maintenance. The chair was designed by Mr. Spencer and the framework was made of arc welded steel pipe. An estimate of 15 per cent saving by using arc welding is made by the author.

Late October programs scheduled for the de Young Museum includes "The Mystery of the Mask" by Edward Counter, October 25 at 3 p.m., and every afternoon from 3 to 5 recorded music for the theater, all these special programs to coordinate with the Theater and Dance Show which has been held over by popular demand from last month.

THE CUMBERLAND REVIEW
Painting by Edward Savage (1761-1817)
George Washington reviewing his army.

METAL MASK FROM SIAM,
loaned for the Theatre and Dance Exhibition
at de Young Museum by Dr. George Altman.
Mask symbolizes human face.
The exhibition has proved so popular it has been extended
till November 15.

ARCHITECT ON ART SCHOOL FACULTY

Samuel Paul, New York architect, has been appointed to the Art School faculty of Cooper Union, it is announced by Dr. Edwin S. Burdell, director of the Union. Mr. Paul, who is twenty-nine, and a specialist in the design of pre-fabricated housing, will give courses in architecture and architectural design.

He is a graduate of Massachusetts Institute of Technology, which awarded him a scholarship for study at the Fontainebleau School of Fine Arts in France in 1934. He took graduate work at Harvard University in 1935-36, and later was employed as an architectural draftsman.

Mr. Paul has designed several airfield buildings for the U. S. Army, and recently completed a pre-fabricated housing project for the Government. He also contributed to the design of the British Pavilion and Brazilian building at the New York World's Fair.

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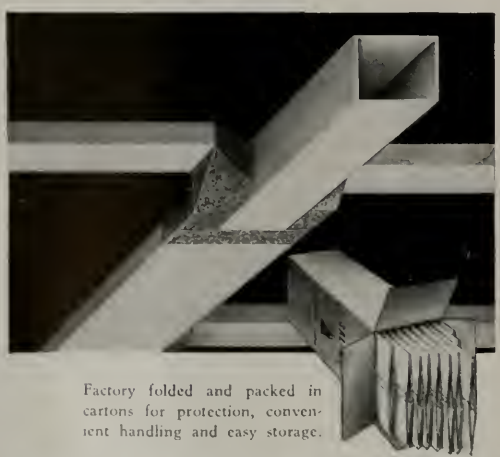

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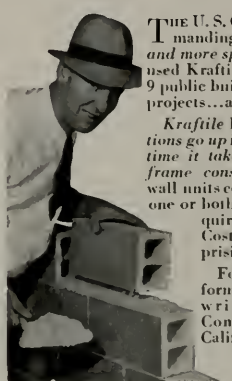

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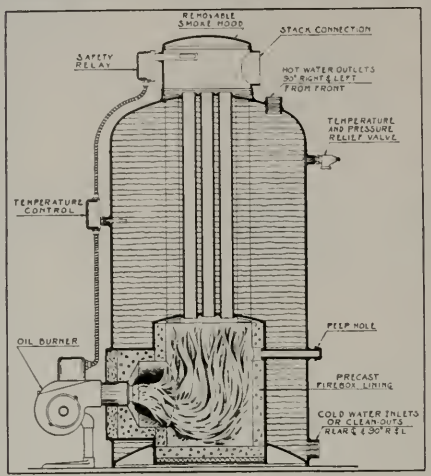
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Peralta Villa

an Oakland low-rent housing project of 396 dwelling units with 1,636 rooms

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Peralta Low Rent Housing Project, Oakland. (Note ice plant in foreground, also attractive lawns and generous assortment of trees and shrubs.)

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A Parker Job for war workers

CAMPBELL VILLAGE — — LOW RENT HOUSING PROJECT, OAKLAND, CALIFORNIA

We consider it a great privilege to have had the opportunity of working with the Board of Architects consisting of Carl I. Warnecke, chairman; Hugh C. White, John J. Donovan, Henry A. Minton and Frederick H. Reimers on this project.

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AN INTERESTING DETAIL, LOCKWOOD GARDENS LOW RENT HOUSING PROJECT, OAKLAND, CALIFORNIA

Photo Gene Hainlin Studios

OAKLAND'S LOW RENT HOUSING PROJECTS

By FRED JONES *

Oakland, like San Francisco, has completed or nearly so, three low income housing projects, marking realization of a $4,500,000 construction program started in 1939. Operating as the Housing Authority of the City of Oakland, the present administration has seen the successful fulfillment of a real housing need. Two of the projects have been developed in the heart of the city's most blighted section. Slums have been cleared and replaced with neat, attractive homes. Ultimately 922 new dwelling units will have been provided by the three projects designated as:

Campbell Village. Constructed on the site bounded by 8th, 9th, Campbell and Willow Streets and consisting of 154 units.

Peralta Villa. Located at 8th, 12th, Cypress and Union Streets and containing 396 dwelling units.

Lockwood Gardens. Located on the south side of East 14th Street at 66th Avenue, with 372 units.

In planning these three projects a number of unusual obstacles faced the authorities. To compel demolition of all unsafe and unsanitary structures at one time would be to drive families into even worse living conditions. So the work was carried on slowly in order to prevent serious hardships to low income families. Litigation over some of the property likewise slowed up at least one of the projects.

All three undertakings reflect study and careful planning on the part of the architects, despite the fact that there have been complaints by both tenants and outsiders that Campbell and Peralta both lack adequate recreational facilities. The small spaces allotted to children of kindergarten age, consisting of cemented areas and spray pools, do not take care of the needs of youngsters of grammar school age, nor are there any provisions for the parents, who, by the way, have petitioned for tennis and hand ball courts and other outdoor interests.

At least part of the space used for individual automobile parking might still be utilized for needed recreational areas. This lack of playground space, however, is not an oversight attributable alone to the Oakland planners. The same conditions are noticeable in many

Architects for More Housing

That Oakland's three low rent housing projects have helped to relieve a serious housing congestion in the East Bay area is admitted, but the situation still is far from encouraging and steps have already been taken to build more houses and more houses. These structures must of necessity be of a temporary nature, many of them prefabricated to insure speedy erection, for time is an important element with winter close at hand and weekly arrivals of war workers from the east in 500-at-a-time trainloads.

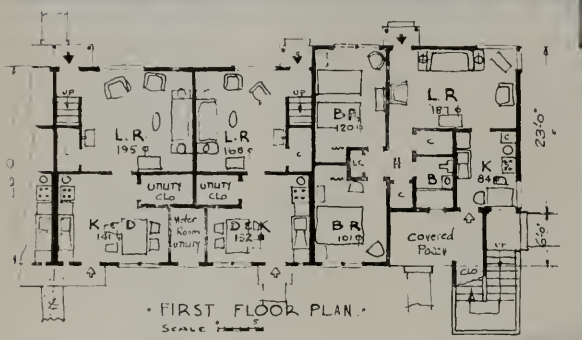
To cope with the situation the Richmond Housing Authority has named Albert F. Roller of San Francisco and Keith O. Narbett of Richmond, architects to design Section 1 of 2000 war apartment and defense dwelling units, and Carl I. Warnecke, Oakland, E. Geoffrey Bangs and Vincent G. Raney of San Francisco, architects of Section 2, another 2000 units.

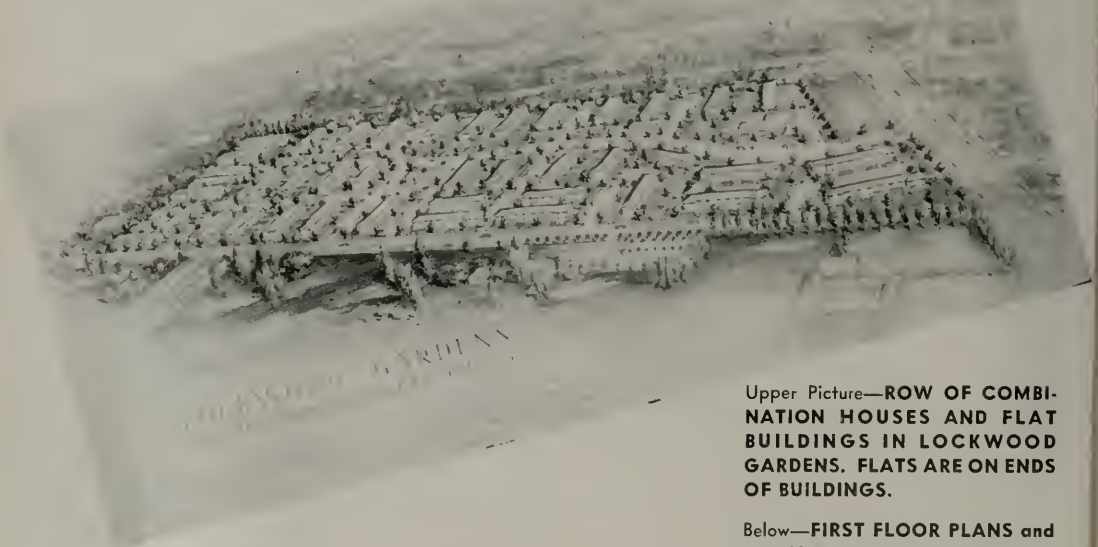
Meanwhile, Will G. Corlett of Oakland is designing 1500 dormitory units and 600 war apartment units to be built on the Middle Harbor Road, near the Moore Drydocks, for the U. S. Maritime Commission and to be occupied by employees of the Moore Shipyards. Mr. Corlett will also design 6,000 war apartment units for the Richmond Shipyards.

To further relieve the situation in the East Bay area, the Oakland Housing Authority will shortly choose a site for its fourth low rent housing project to provide 1000 war apartment and defense dwelling units. The architect will be John J. Donovan, who was identified with the three completed projects illustrated in this issue.

Last but not least the Alameda Housing Authority has appointed architects to design 2,000 war apartment and defense dwelling units for that city. The architects named are Andrew T. Hass and Carl I. Warnecke.

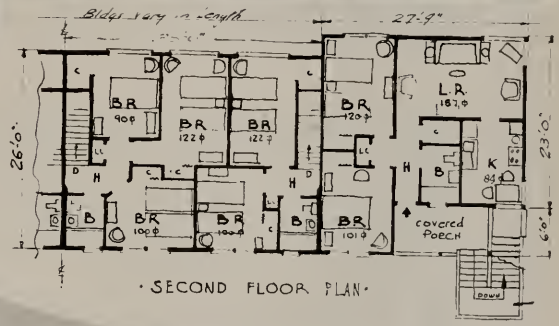
* These notes are not intended to be a criticism of the Oakland Housing Authority's record to date. They are listed as one person's observations as a possible guide for future projects of this type. The Oakland Housing Authority has been guided to a very considerable extent by its Board of Architects whose work as a whole has been meritorious.

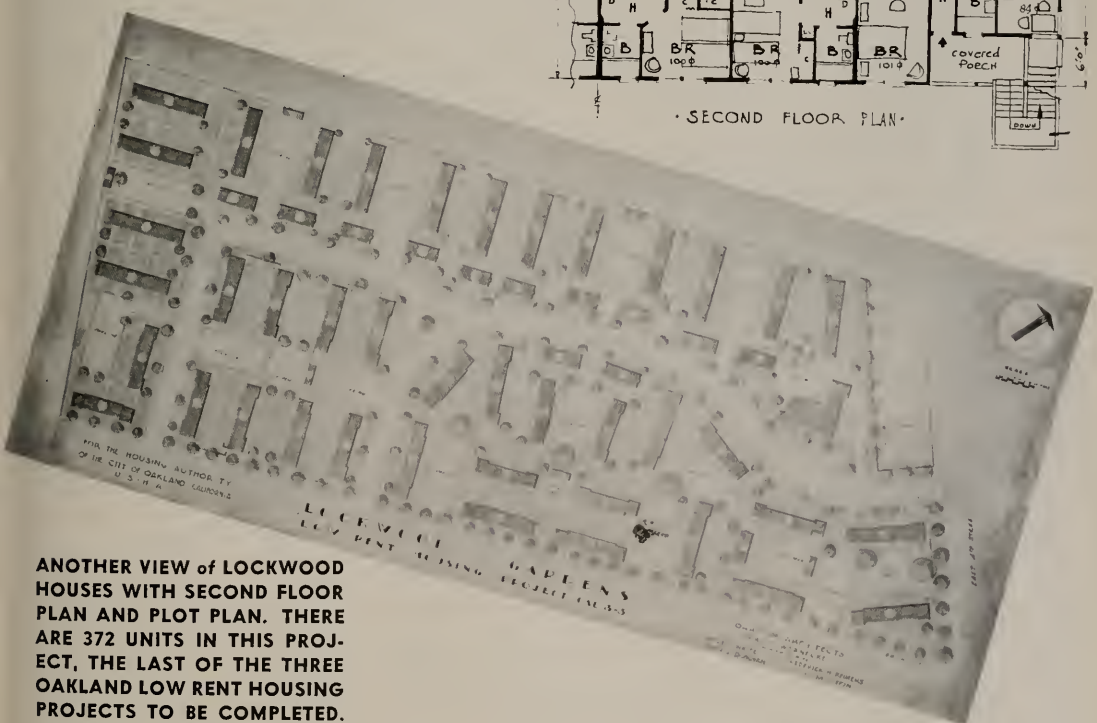




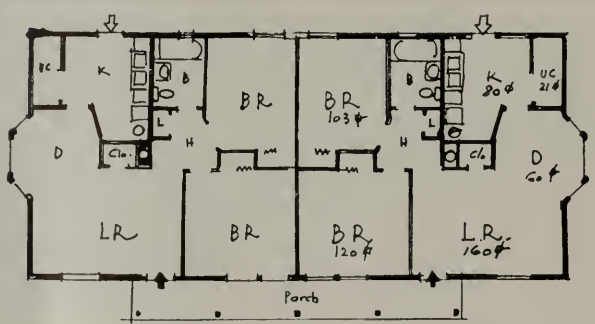
Upper Picture—**ROW OF COMBINATION HOUSES AND FLAT BUILDINGS IN LOCKWOOD GARDENS. FLATS ARE ON ENDS OF BUILDINGS.**

Below—**FIRST FLOOR PLANS and BIRD'S-EYE VIEW OF PROJECT.**





ANOTHER VIEW of LOCKWOOD HOUSES WITH SECOND FLOOR PLAN AND PLOT PLAN. THERE ARE 372 UNITS IN THIS PROJECT, THE LAST OF THE THREE OAKLAND LOW RENT HOUSING PROJECTS TO BE COMPLETED.



Upper Picture—**LOCKWOOD ADMINISTRATION BUILDING.** Below—**ONE STORY DUPLEX BUILDINGS, 4½ rooms and 6½ rooms.**

PLAN OF ONE STORY DUPLEX

LOCKWOOD GARDENS LOW RENT HOUSING PROJECT

for Housing Authority of the City of Oakland, California

Board of Architects

Carl I. Warnecke, Chairman — Hugh C. White, Secretary
John J. Donovan — Henry A. Minton
Frederick H. Reimers

Structural Engineers . . . . . Hall & Pregnoff
Mechanical Engineer . . . . . George E. Atkins
Landscape Architect . . . . . Floyd H. Mick

Number of Dwelling Units 372

Site—Rounded on the northeast by East 14th Street and on the southeast by 66th Avenue; by privately owned property on the other two sides.
Topography flat with about 13 feet fall toward the south.
Area purchased—21.9 acres. Area to be dedicated to the City for public streets—2.9 acres. Area for development, exclusive of new internal streets and setback along 66th Avenue—19 acres (827,900 sq. ft.).
Ground area occupied by buildings—165,300 sq. ft.
Ground coverage by buildings—20% of total.
Number of dwelling units per acre—19.6.

Buildings—Project consists of 53 dwelling buildings, 1 Administration and Community Building, and 6 laundry and storage buildings.

Dwelling Units

80 — 3½ room units, area 594 sq. ft. (flats).
24 — 4½ room units, area 800 sq. ft. (flats).
204 — 4½ room units, area 780 sq. ft. for typical unit; 797 sq. ft. where combined with 5½ room unit.
59 — 5½ room units, area 997 sq. ft.
5 — 6½ room units, area 1,020 sq. ft.

372 Dwelling Units — 1,663 Rooms.

Areas and Cubage	Areas sq. ft.	Cubage sq. ft.
Dwelling Buildings	293,330	2,970,800
Non-Dwelling Buildings	9,310	122,700
Total	302,640	3,093,500

Construction

Site Conditions: Silty clay or adobe about 3 feet deep on the average.
Utilities: Principal utilities were available at or near the site, except that water main must be extended along 66th Avenue for fire hydrants, with cost borne by Utility District. Other utilities were extended or amplified without cost to the Local Authority.
Site Engineering: Grading for surface runoff of storm water to street gutters. Additional storm sewer in contract to connect to new City storm sewer.
Street and Other Paving: Asphaltic surface course on crusher run base.
Walks: Oil macadam replacing concrete by change order.
Landscaping: Lawns and shrubs.

Buildings:

Foundations: Concrete.
Superstructures: Wood frame plastered on exterior.
Interior Walls: Painted plaster on gypsum lath.
Floors: Oak except kitchen floors which are linoleum. Bath room floors ceramic tile.
Roofs: Sloping hipped roofs with built up gravelled roofing.
Exterior: Cement wash on plaster.
Plumbing: Standard equipment. Individual hot water storage heaters in kitchens.
Heating: Gas fired circulating heaters in living rooms of dwelling units.
Electric: Overhead distribution. Interior wiring in knob and tube.

Contracts

General Construction—James I. Barnes Const. Co., Santa Monica, California, July 12, 1941.
Plumbing and Heating—J. A. Fazio, Oakland, California, July 3, 1941.
Electrical Work—Clifford Electrical Co., Oakland, July 3, 1941.

Contract Costs	Amount	Per D. U.	Per Sq. Ft.	Per Cu. Ft.
General Construction	*$ 913,000	$2,454.30	$3.02	$ .293
Plumbing & Heating	** 167,525	450.30	.56	.055
Electrical Work	45,000	121.00	.14	.015
	$1,125,525	$3,025.60	$3.72	$ .363

Note: * Contract price $963,000 required by USHA to be reduced to not over $913,000 by change order before notice to proceed.
** Includes kitchen ranges.

other housing projects.

In Campbell Village about 56 per cent of the tenants are Negroes, 41 per cent are whites and 3 per cent are Orientals. The Negro tenants are all local and were residents of the neighborhood before the improvements were started. The average income of these families is less than $90 a month, with rents varying from $14 to $25.50, including all utilities. The white families came because desperately in need of housing.

Private owners of housing of this type could not afford to rent at these prices, nor could the Authority offer such low rentals were it not for a yearly subsidy, not to exceed three per cent per year, from the government. The tenants have disproved the assertions of some critics of low rent housing for persons of small income, that "people who live in slums are naturally dirty," and that "they like to be that way . . . put them in new clean houses and they'll store coal in the bathtubs."

The experience of the Oakland Authority to date is that if you give these people decent, clean surroundings, they keep them clean and decent; in fact, take pride in the care of their homes. That most of the tenants are happy is evident from the fact that in a year's time only 24 replacements out of a total of 154 units have been made, a better than average showing, the authorities say. The records also indicate a considerable drop in moral delinquencies.

Applications filed for accommodations at Campbell Village between April and July, 1941 averaged 14 persons every working day. At present there are 539 people living in the Village and of this number 232 are children. When the two projects were started there was a 2 per cent vacancy in Oakland. At this writing there is a waiting list of several thousand.

One recreational feature of the three Oakland projects is spray pools installed in the community playgrounds. Spray pools are

PERALTA VILLA LOW RENT HOUSING PROJECT

for Housing Authority of the City of Oakland, California

Board of Architects

Carl I. Warnecke, Chairman — Hugh C. White, Secretary
John J. Donovan — Henry A. Minton
Frederick H. Reimers

Structural Engineers . . . . . Hall & Pregnoff
Mechanical Engineer . . . . . George E. Atkins
Landscape Architect . . . . . Floyd H. Mick

Number of Dwelling Units 396

Site—Bounded by Eighth, Cypress, Twelfth, Poplar, Tenth, and Union Streets. Site occupied by substandard dwellings, demolished under separate contracts. Topography relatively level. Area purchased—15.22 acres. Street area vacated by City—3.09 acres. Total area acquired—18.31 acres (798,878 sq. ft.). Ground area occupied by buildings—168,430 sq. ft. Ground coverage by buildings—21.2% of total. Number of dwelling units per acre—21.6.

Buildings—19 row house buildings, 16 flat buildings, 1 Administration Building.

Dwelling Units

152 — 3½ room units, area 615 sq. ft.
64 — 4 room units, area 690 sq. ft.
142 — 4½ room units, area typical 800 sq. ft., when combined with 5½ room units 845 sq. ft.
38 — 5½ room units, area 980 sq. ft.

396 Dwelling Units — 1,636 Rooms.

Areas and Cubage

	Areas sq. ft.	Cubage cu. ft.
Dwelling Buildings	298,610	2,843,000
Non-Dwelling Buildings and Spaces	14,650	169,900
Total	313,260	3,012,900

Construction

Site Conditions: Sandy loam about 5 feet deep to hardpan.
Utilities: All available without extensions.
Site Engineering: Grading for surface runoff of storm water to street gutters.
Walks: Concrete.
Paving: Asphaltic.
Landscaping: Lawns and shrubs.

Buildings:

Foundations: Concrete.
Superstructures: Concrete exterior, fire division walls and first floor slab; wood framed partitions, second floor and roof.
Interior Walls: Painted plaster on gypsum lath.
Interior Finish: Wood.
Floors: Asphalt tile in first story; oak in second story; linoleum in kitchens; ceramic tile in baths.
Roofs: Built up felt and gravel, flat.
Exterior: Cement wash on concrete.
Plumbing: Standard equipment. Hot water supplied by group heaters and storage tanks, one in each building.
Heating: Gas fired circulating heaters in living rooms of dwelling units.
Electric: Underground distribution, lead sheathed in conduit for primary circuits; Parkway cable for secondary; interior wiring in rigid conduit.
Kitchen Ranges: Supplied by the Local Authority under separate contract and installed by the Plumbing Contractor on change order.
Refrigerators: Not furnished.

Contracts:

Contracts let on November 15, 1940, as follows:
General Construction—Monson Bros., San Francisco
Plumbing Work—L. J. Kruse Co., Oakland
Electrical Work—Clifford Electric Co., Oakland
Heating Work—L. J. Kruse Co., Oakland

Contract Costs	Amount	Per D. U.	Per Sq. Ft.	Per Cu. Ft.
General Construction	$938,831	$2,370.70	$3.00	$ .312
Inter. & Exter. Plumbing	133,970	338.30	.43	.044
Inter. & Exter. Wiring	37,300	94.30	.119	.012
Heating Work	8,377	21.15	.027	.002
	$1,118,478	$2,824.45	$3.58	$ .37

desirable but they need supervision. Without supervision they become a menace. Most youngsters are not satisfied with just a spray of water falling over them. They want to wade and, as a means to that end, they flood the pool by diverting the spray into a solid stream. This is done by throwing a paper or piece of cloth over the nozzle.

White and Negro children play together with no apparent thought of racial difference. According to the authorities it is not until the junior college age has been reached that any color line is drawn. Recreational facilities, in addition to the spray pools already referred to, include sand bins for the little tots and cemented areas for the slightly older boys and girls. There are no out-door recreational facilities for parents, an omission which has resulted in repeated petitions for tennis and handball courts.

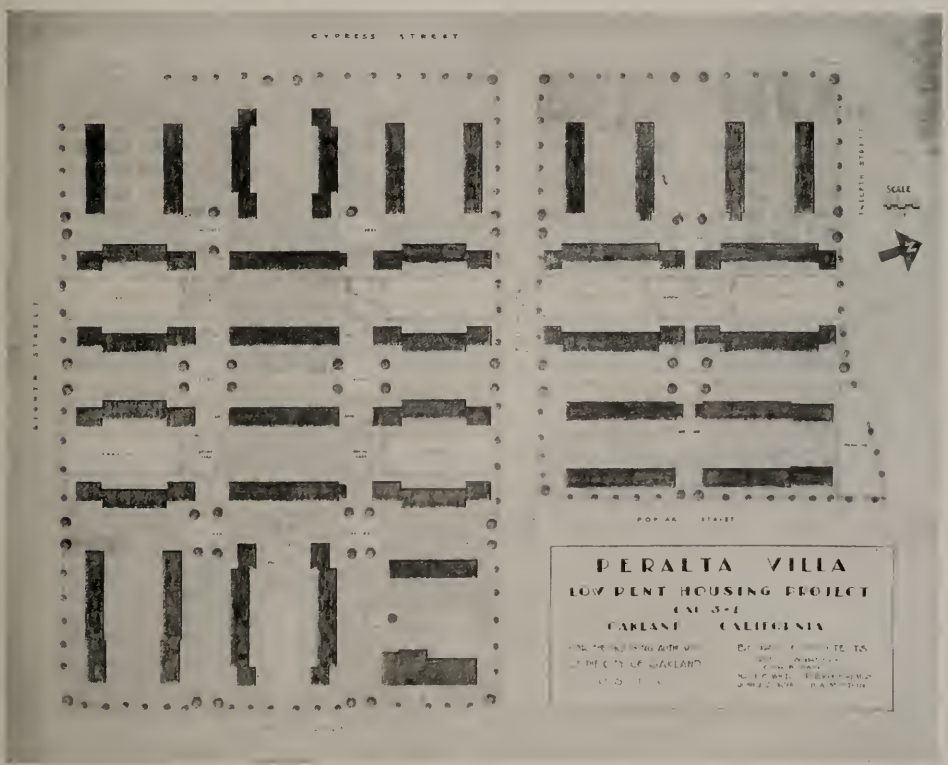
Community facilities include storage space, sitting areas, laundry and garbage disposals. The latter comprise a battery of galvanized iron cans which could well be hidden by an inexpensive covering of some sort. Both Campbell and Peralta have their public laundries which are equipped with electric washing machines that operate when ten cents is deposited in the slot.

While not over-popular in California, tenants in the Northwest housing projects insist that public laundries be provided.

The housing units at Campbell run from three and one-half rooms to five and one-half rooms, with a rent schedule ranging from $14 to $25.50 per month. The living rooms seemed to

These views show sub-standard housing conditions before the Peralta and Campbell projects were started. Congestion, insanitation and fire menace are apparent in all four pictures.

ARCHITECT'S DRAWING OF PERALTA VILLA PROJECT

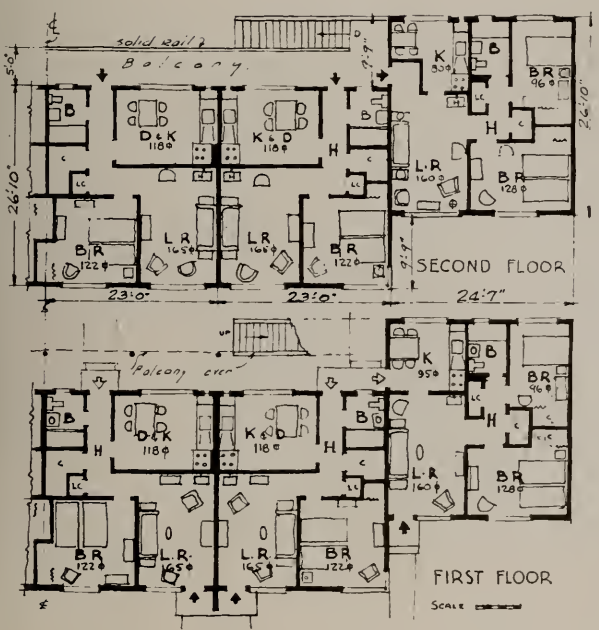


PLOT PLAN

DELINQUENCIES of TENANTS in PERALTA DISTRICT SHOW

THREE VIEWS OF PERALTA PROJECT SHOWING FLAT BUILDINGS
IN LOWER PICTURE NOTE OUTSIDE BALCONY FOR ENTRANCE TO SECOND STORY FLATS

ARP DECLINE FOLLOWING OCCUPANCY OF PROJECT



Center Axis of 2-Flat type Buildings in Peralta Project. View is from Eighth Street. There are 396 dwelling units with a total of 1,636 rooms in this project.

CAMPBELL VILLAGE FIRST OF THE OAKLAND LOW RE

There are four rows, four buildings to a row, as pictured above, in the Campbell Village project. There is alsa a project office and community building.

Left — **Bird's-eye view of Campbell project.**

Right — **Plat Plan. Campbell Village replaced several acres of substandard houses, unsanitary and a breeding place for crime and a constant fire hazard.**

USING PROJECTS, HAS 154 DWELLING UNITS

CAMPBELL VILLAGE LOW RENT HOUSING PROJECT

for Housing Authority of the City of Oakland, California

Board of Architects

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Structural Engineers . . . . . Hall & Pregnoff
Mechanical Engineer . . . . . George E. Atkins
Landscape Architect . . . . . Floyd H. Mick

Number of Dwelling Units 154

Site—Bounded by Eighth, Willow, Tenth, and Campbell Streets. Site occupied by substandard dwellings, demolished under the General Construction Contract. Topography relatively level. Area purchased—5.26 acres. Street area vacated by City—1.05 acres. Total area acquired—6.31 acres (274,900 sq. ft.). Ground area occupied by buildings—63,680 sq. ft. Ground coverage by buildings—23% of total. Number of dwelling units per acre—24.4.

Buildings—12 row house buildings, 6 flat buildings, one Project Office and Community Building.

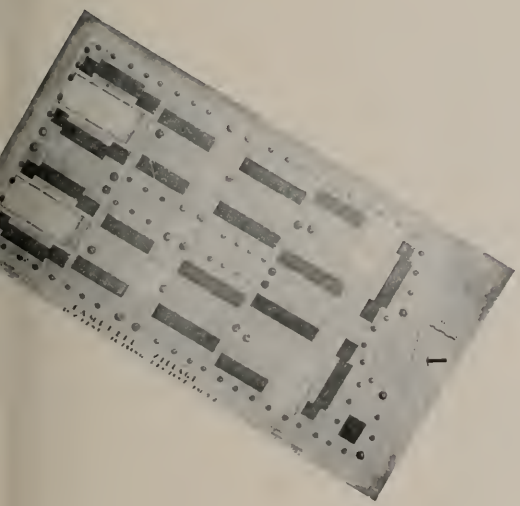
Dwelling Units

48 — 3½ room units, area 615 sq. ft. each.
24 — 4 room units, area 690 sq. ft. each.
62 — 4½ room units, typical 800 sq. ft. each; where combined with 5½ room units 820 sq. ft.
20 — 5½ room units, area 925 sq. ft.

154 Dwelling Units — 653 Rooms.

Areas and Cubage

	Areas sq. ft.	Cubage cu. ft.
Dwelling Buildings	116,900	1,137,000
Non-Dwelling Buildings and Spaces	3,880	38,000
Total	120,780	1,175,000



Construction

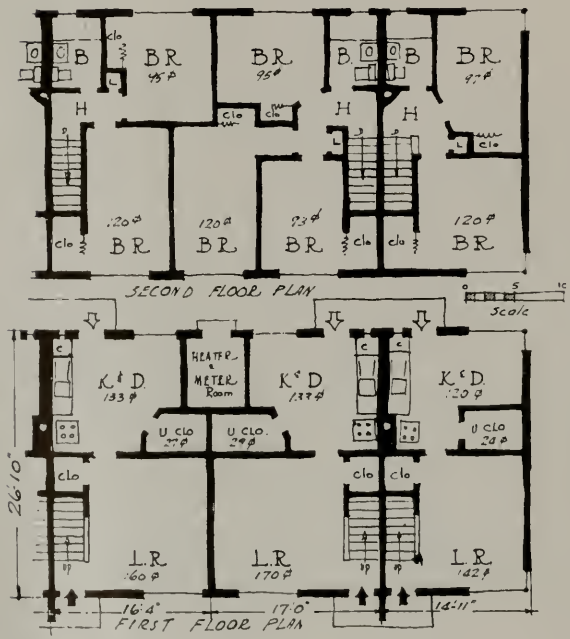
Site Conditions: Sandy loam about 5 deep to hardpan.
Utilities: All available without extensions.
Site Engineering: Grading for surface runoff of storm water to street gutters.
Walks: Concrete.
Paving: Asphaltic.
Landscaping: Lawns and shrubs.
Foundations: Concrete.
Superstructures: Concrete exterior, fire division walls and first floor slab; wood framed partitions, second floor and roof.
Interior Walls: Painted plaster on gypsum lath.
Interior Finish: Wood.
Floors: Asphalt tile in first story; oak in second story; linoleum in kitchens; ceramic tile in baths.
Roofs: Built up felt and gravel, flat.
Exterior: Cement wash on concrete.
Plumbing: Standard equipment. Hot water supplied by group heaters and storage tanks, one in each building.
Heating: Gas fired circulating heaters in living rooms of dwelling units.
Electric: Overhead distribution from street poles. Interior wiring in rigid conduit.
Kitchen Ranges: Supplied by the Local Authority under separate contract and installed by the Plumbing Contractor on change order.
Refrigerators: Not furnished.

Contracts:

Contracts let on January 23, 1940, as follows:
General Construction—K. E. Parker Co.—San Francisco
Plumbing Work—L. J. Kruse Co.—Oakland
Electrical Work—Clifford Electrical Co.—Oakland
Heating Work—L. J. Kruse Co.—Oakland

Contract Costs	Amount	Per D. U.	Per Sq. Ft.	Per Cu. Ft.
General Construction	$378,200	$2,455.85	$3.13	$ .322
Plumbing	51,090	331.75	.42	.043
Electrical	16,700	108.50	.14	.014
Heating	3,895	25.20	.03	.003
	$449,885	$2,921.30	$3.72	$ .38

View of Campbell Project from the street.
Note excellent landscaping with less than a year's growth.



Typical plan of two story houses containing three flats of four rooms each. There are 24 four-room units, 48 three and one-half room units, 62 four and one-half room and 20 five and one-half room units.

us rather small for average family needs and much too small for the bulky furniture crowded into them. The story goes that when the tenants were preparing to move they visited the Oakland furniture stores and were erroneously advised that the Housing Authority required the installation of all new furniture. As a result many tenants purchased as much as $400 worth of furniture and rugs, obligating themselves for installment payments over a long period. Some of these families have incomes of less than $60 a month. Their actual furniture needs could have been met by an initial outlay of as little as $38.

Peralta Villa is the largest of the three Oakland projects. It consists of 152 three and one-half room units; 64 four room units; 142 four and one-half room units; and 38 five and one-half room units. Altogether there are 1636 rooms.

The units are located in 16 flat buildings and 19 row houses. The flat buildings are two stories high and contain three and one-half and four room units. The row houses, also two stories high, contain four and one-half and five and one-half room units.

All structures are of reinforced concrete with fireproof composition graveled flat roofs. The exterior concrete surface and all openings are painted brown, tan and cream colors. Specifications for interiors called for concrete first floor covered with asphalt tile, with wood frame second story and oak flooring. All interior walls are plastered. Metal sash, outside French doors and interior wood doors are provided.

The Peralta project has an imposing administration building with one floor devoted to community and social facilities, project management office and maintenance supply office, and the second floor given over to general executive offices for the Oakland Housing Authority. The community and social facilities in the administration building include a social room (32′ by 47′); craft room (23′ by 23′); nursery - library (23′ by 23′); and community kitchen and toilets. These rooms can be combined as a large hall when necessary.

Peralta's three and one-half room units contain a living room, combined dining room and kitchen and a bedroom, while the four room units have two bedrooms.

Complete dwelling units are on either the first or second floors. Second floor units are reached by an outside balcony with egress at each end of the balcony. First floor units have both front and back yards.

Furnishings for each unit include a bathtub, toilet, washbowl, sink, kitchen stove and individual circulating gas air heater. A common hot water heater in each building serves the individual dwelling units. Other facilities include closets, pantry and cabinets. Linoleum covers the kitchen floors.

Four and one-half room units have a living room, combined dining room and kitchen and two bedrooms. The five and one-half room units have three bedrooms. Dwelling units are located on both the first and second floors with an individual private stairway to the second floor rooms. Each unit has an individual front and back yard. Living rooms, dining rooms and kitchens are on the first floor, with other rooms on the second. Furnishings are the same as in the smaller units.

Absence of closet doors in all the apartments was explained as a space saving experiment. It is being done in the East quite generally. A swinging door takes up a lot of space. Curtains are frequently used to cover the door space although, in some instances, nothing is done by the tenant to fill the opening.

Landscaping of the grounds was included in the general construction contracts, but the mechanical work was let separately which, according to the Authority, resulted in a considerable saving and permitted local firms to participate. Gardens, trees, plants and shrubs were included in the landscaping. The rye grass that was planted does well and looks well when plentifully watered, but where the sprinkling has been neglected the grass has reached hay stage.

Tenants are supposed to care for their own yards. Most of them do. Those who do not should be cautioned. One or two neglected yards, front or back, will just about ruin an otherwise attractive landscaping.

The Housing Authority of Oakland is composed of Commissioners Thomas M. Robinson, Jr., chairman; Hugh S. Rutledge, John P. Brennan, C. M. Walter and Stanley A. Burgraff. Bernard J. Abrott is the Executive Director.

Courtesy California Highways and Public Wo

BARRACKS AND SCHOOL BUILDINGS, CALIFORNIA STATE MARITIME ACADEMY MORROW COVE, NEAR VALLEJO

SHORE BASE FOR STATE MERCHANT MARINE TRAINING SCHOOL AT VALLEJO

Now being built along the beach at Morrow Cove, two miles east of Vallejo, is the pictured temporary shore base for cadet companies of the State Merchant Marine Training School. The wood frame barracks-type dormitories and instructional building will cost the State of California $160,000, a sum allocated from the Governor's Emergency Fund.

Included in this project are temporary barracks containing toilet and shower rooms in which the cadets, assigned four men to a squad room, will live during the concentrated 16-month period of their training except during the two protracted cruises on the ship "Golden State."

To be constructed also is a T-head timber wharf, 200 feet in length along each leg, which is the home berth of this training-ship assigned to the State of California by the United States Maritime Commission, and which also provides for the ship's overhauling. Adjoining the dormitories and arranged around a small quadrangle facing the cove are a classroom and administration building, kitchen and mess hall seating 200 cadets and an engineering shop and instructional building, all of which are of minimum critical material, "duration" construction to house an urgently needed facility.

The program proposes the installation of water, gas, and electric power services which are scheduled, with the building structures, for completion this fall, and for which a high preferential priority was granted by the War Production Board, upon the request of the State Department of Public Works.

Plans for the shore base were prepared by the State Department of Architecture in Sacramento.

POST-WAR PLANNING FOR THE CONSTRUCTION INDUSTRY

By **RUSSELL G. CREVISTON**
Chairman, Producers' Council, Post-War Planning Committee

What is being done—and what can be done to assure a brighter future for the building industry when the war clouds roll away? Here is a comprehensive analysis of the background of this big problem. It sounds a note of cheer and progress in these troubled times and lays down the general procedure for carrying on an integrated program of industry-planning, a program that will have the solid backing of the nationally prominent Producers' Council, the American Institute of Architects and others.

The three questions uppermost in the minds of every adult American today are:

1. How can I help to win the war?
2. How can I survive the vicissitudes of the war?
3. What is going to happen to me when the war is over, and what after victory?

Interest in this after victory question is growing and will continue to grow as management recognizes its stake and as the general public becomes more aware of the changes which our war economy is forcing upon us. There are some conflicting views as to what is going to happen after victory and what if anything can be done about it. These views vary all the way from abject despair to beliefs in an unlimited Utopia. Fortunately, the majority view is rational, realistic and conservatively optimistic. There is a minority element in government and business whose views are extreme. On the business front there are those who believe that chaos and ruin or business as usual will follow the war. In the field of government there are those who proceed on the theory that there must be an International New Deal—a people's revolution. Such views are a constant threat to sound planning and make it all the more important that as individuals and as a responsible group we proceed without delay and that we enlist the cooperation and advice of all branches of the construction industry.

The nature and the scope of post war planning to date is not only interesting but very encouraging. On the business front we find the National Association of Manufacturers recommending to each of its members the formation of a committee or department to devise and suggest plans to meet postwar problems and plans in due time to call an open national conference on this subject; the United States Chamber of Commerce is studying developments and trends growing out of the war; The Association of American Railroads problems of transportation; the Food Research Institute international agreements on foodstuffs and raw materials; the Machinery and Allied Products Institute post-war problems affecting machinery; the National Lumber Manufacturers Association technical advances, processes, methods, and inventions for improved lumber products both here and abroad. In the financial field the U. S. Savings & Loan League, Mortgage Bankers' Association of America, and the large insurance companies are concerned with the future of mortgage financing.

Trade and professional groups are busy. The National Association of Real Estate Boards and the American Institute of Architects are directing their efforts toward the replanning and rebuilding of cities, the elimination of blighted areas and slum areas, and the effect of war-born design and materials on the future of construction. War designs, materials and methods of construction constitute one of the major questions directly affecting the manufacturers of building materials and equipment and constitute a real challenge to our subcommittee on technical questions. The American Bar Association, through its committee on "International Legal Problems" is carrying on an edu-

cational campaign to establish among lawyers and laymen a more quickened consciousness of the permanence and the indestructible nature of international law. The Federal Council of Churches is studying the bases of peace.

Some of the most constructive work on the part of industry is being done by individual companies. The work of the General Electric Company is outstanding. Johns-Manville's plan is a program of formal education for the building Industry. The Carnegie-Illinois Steel Corporation has organized separate departments to study postwar production, engineering and marketing. Their setup is a model for large industrial corporations.

The postwar planning efforts of the various agencies and departments of the Federal Government are being co-ordinated by the National Resources Planning Board. For the past eight years this Board has been engaged in studies of our national resources—natural, human, scientific and economic. Since November 1940 the Board has been developing its "postwar agenda," having been instructed by the President to collect, analyze, and collate all constructive plans for public and private action in the postwar period. To this end the Board is serving as a clearing house to assemble ideas and plans, to stimulate action by public and private agencies, to harmonize divergent views and to furnish information to the President and to the Congress. Reports of the Board are public documents and should be carefully studied by those interested in postwar planning.

The Economics Unit and the Construction Unit of the Department of Commerce are concentrating on ways and means of measuring the postwar market, assisting individual corporations and branches of industry with postwar plans, and serving as a clearing house for industry and commerce.

OBJECTIVES AND SCOPE

Someone has said, "It is human to resist change and to discount predictions of major social and economic changes." It is equally human to limit the horizons of our own imagination and yet economic history is full of achievements which become realities despite the sincere convictions of many people that they could not happen. Therefore, while we may differ in our appraisal of the impact of the war on our social and economic life, and while we may differ as to the exact scope and nature of things to come, certainly we can agree that we are fighting this war to win the peace. We will glory in our final military victory as we glory in successful engagements from day to day, but mastery of arms is not our goal. Our goal is the realization here and abroad of the aspirations we and all free peoples have cherished but never attained, the aspirations toward freedom, democracy and the supremacy of human rights. Because this is our goal we must not limit the horizons of our own imagination, we must get rid of our pre-war mental machinery and dedicate ourselves to the winning of the peace, which requires careful study and analysis of present trends and the projecting of a sound course of action.

Postwar planning covers many subjects: finance, politics, social problems, economics, taxation, but the balance wheel most commonly agreed upon to stabilize our postwar economy is construction. This has its disadvantages as well as its advantages. On the negative side the Construction Industry stands to become a whipping post for the ills of many segments of our economy and a testing laboratory for premature and ill advised activities. This possibility calls for understanding and coordinated effort on the part of the leaders of the various branches, trades and professions which comprise our industry. On the affirmative side we can benefit from this public acceptance of our industry's social and economic importance by developing a sound program of industry and public relations. This will be the job of our subcommittee on Industry and Public Relations.

NEW TRENDS

The psychological effects of the war are beginning to be felt in two major directions. First, we are slowly but surely accepting a greater degree of individual responsibility. We are acquiring more of a will to be self-sustaining, to depend less and less on the paternalism of the state. We are developing once again a spiritual stake in our community and our nation. It was the decline of this self-reliance, this

spiritual stake which made possible many of the nostrums of the Thirties. Secondly, we are beginning to think and act as one of a family of nations and this broader view makes future planning on a large scale possible and effective.

We are still too much engaged with our war economy to project the future of our social life but there are a few trends that cannot be overlooked. The great increase in the number of women employed in industry is bringing the home and industrial fronts closer and closer together, and while many of these women will be replaced, their interest in and views on industrial management questions will be felt for many, many years.

The need for greater regulatory powers and collective efforts in time of war are bound to leave their imprints on the future and must be considered in all our plans. The status of labor has been more or less frozen for the duration and no one can foretell the character of our postwar labor policy but it is safe to assume that labor will play an important part in the postwar period. The bigotry of race, creed and color is being definitely reduced.

The impact of the war on our economic life can be measured in very concrete terms. Industrial facilities have been greatly expanded and the rate of production increased by greater mechanization and increased productivity of men and machines. Never before have we trained so many men so well in such a short period of time. Old products have been simplified; new products, new materials, and complete new industries have been developed; new methods, new designs and new standards have been introduced and will permanently affect our operations. Firms doing subcontracting work have learned new production processes which will tend to decentralize industry and increase the number of producers in many lines. Thousands of scientists and inventors have been diligently searching for new products and new processes. Their discoveries are among the most closely guarded of our military secrets, but once hostilities cease the curtains will be thrown back and wonders undreamed of will serve to rekindle the appetites of a war-weary and a product-hungry people.

SHIFTING POPULATION

Gearing our economy to the production of arms on the largest scale ever projected has resulted in dislocations of population and industry. New plants have been constructed in large cities, small towns and even farm areas, often drawing workers from twenty or more states. This migration was superimposed upon a shifting agricultural population, which attracted national attention in the Thirties. The number migrating to defense centers has averaged from two to three for every one employed. This surplus of workers results in overcrowded facilities not only during periods of construction but afterwards as experience shows that a large percentage remain permanently. This permanent increase, particularly in smaller cities and farm areas, presents a real postwar problem as it will serve to force operation of the war plants and draw new industry to such communities.

A good example of this migration is found in San Diego which had a population of about 200,000 in 1940 and has grown to more than 300,000 today. From January 1st to May 1st of this year San Diego's population increased 34,000. However, the flow of our migration has been chiefly into New England, the Middle Western and Great Lakes industrial area, and the Pacific Coast. A total of one million people migrated to California, Oregon and Washington in the first two months of this year. This presages a much greater industrialization of the Coast.

The movement of industry has been on a much smaller scale than that of population but it is reasonable to expect that some types of industry will migrate to those overpopulated centers after the war. Few of the communities experiencing this flow of war workers have the financial resources necessary to expand their transportation, housing, schooling, hospitalization, water supply, sewage disposal, etc. The result has been makeshift facilities, which will have to be replaced with permanent ones if this influx or a major portion of it becomes permanent. This will mean new marketing areas with their attendant effect upon old ones. The character of this semi-permanent migration is

very significant as to future developments. For the most part the age of the male migrants is from 20 to 50 years and they are the lower skilled or inexperienced type of workers. Less permanent displacement among skilled workers can be expected as they do not move their families and will return to their pre-war residences. In brief, we are experiencing the greatest shift of population in our history and its effect upon our social and economic life constitutes one of our major postwar problems.

In discussing our war industrial development the president of one of our great electric companies recently said, "This industrial machine now being built can strike us down as surely as it will our enemies unless we keep it going after the war. We cannot scale it down to a pre-war level just because we have finished the job for which it was built. A nation that has exhibited the production genius and amazing capacity for progress which our nation has, cannot think for a minute of scrapping the machine and dropping back to where we were." In other words, this leader recognizes that full employment is the objective of all the postwar planning and if war can give us the will to use our entire abilities, then we must will to use those abilities for peace.

As manufacturers of building materials and equipment we are in a position to play an important part. We have the satisfaction of having met the needs of war construction, we have simplified our lines, developed new products and are converting our surplus production facilities to war work.

While the plans of the Producers Council will be of primary interest to building product manufacturers, we realize that our welfare is interwoven with that of other interests in the construction industry. I have already communicated with some of these, including the architects, general contractors, building material dealers, real estate interests, trade press, and mortgage and financing groups to apprise them of our activity and to ascertain what thought they are giving to industry planning for the future. It is the intention as time goes on and we have made a start in our planning, to suggest that all of these interests come together to agree upon general principles which the industry can support, as a common program.

Such a program must deal with overall policies, general principles and broad objectives which will facilitate and sustain sound construction by private industry and by government insofar as that may be necessary.

The problems which lie ahead are so numerous and gigantic that they require the combined thought and action of every major unit and division of the profession, trades, industry, commerce, finance and government. The most perfect plans of a few courageous units will fail without the support of all elements in our social, economic and political life. Therefore, our first duty is to properly organize to do postwar planning. The first step is to set up a committee or department in our company and the next step is to get our particular groups organized. Once these steps are taken the many things to be done will naturally follow. In the course of this statement I have emphasized a few of the problems peculiar to our industry and have tried to present the bases of more of them. So in conclusion, let us take our inspiration from the words of Daniel Webster, spoken a hundred years ago:

> "If war should sweep our commerce from the seas, another generation will restore it. If war exhausts our Treasury, future industry will replenish it. If war desiccate and lay waste our fields, under new cultivation they will grow green again, and ripen to future harvest. If the walls of yonder Capitol should fall and its decorations be covered by the dust of battle, all these can be rebuilt; but who shall reconstruct the fabric of a demolished government, who shall dwell in the well proportioned columns of constitutional liberty, who shall frame together the skillful architecture which unites national sovereignty with states rights, individual security with public prosperity."

The answer then as now—people with the will to use their entire abilities in peace as in war.

Therefore let us not have it said of the manufacturers of building materials and equipment in the field of postwar planning—the planning of our part of the peace—too little and too late.

WAR-TIME HOUSING IN DEFENSE AREAS

By CATHERINE BAUER WURSTER
Vice-President, California Housing and Planning Association

No city on the West Coast has developed faster in population in the last twelve months than San Diego. By leaps and bounds the city has doubled its population and is still growing. In answer to the oft repeated question, "Do we need more housing?" Miss Bauer recently broadcast her findings for Town Meeting of the Air, and below is her speech in full.

The subject Mr. Grimm, Director, Citizens Housing Council, and I are scheduled to debate—public versus private construction of housing for war workers—has been a very lively little issue. Suddenly, however, it seems rather academic. It's like asking how many angels can sit on the end of a pin.

The pin in this case is the critical shortage of materials—materials needed for ships, tanks, guns, airplanes and factories, as well as for houses. The pin has two sharp points: How little housing can we do? And, how little essential material and labor can a house use? Sitting on either of these prongs is not a very comfortable position for any breed of angel these days, whether he's a speculative builder or a public houser.

So the first question is: do we need more housing?

Well, here in California there are 800,000 more people than there were two years ago, an increase of 12 per cent—figures which make the once-famous Grapes of Wrath problem look like a picnic. And hundreds of thousands more are still needed.

Most of these people go straight to one of three areas: San Diego, Los Angeles, and (now the hottest spot of all) the great ship-building center stretching along San Francisco Bay from Oakland up to Richmond and Vallejo. Nowhere in the country is this fantastic industrial revolution more dramatic or complete than here in San Diego—with more than a hundred thousand civilians added to its former 250,000, let alone Army and Navy. In 1939 it was still a Utopian haven for tourists and retired people, with a few sailors for local color. By 1940 airplane workers were already crowding into auto-courts and make-shift trailer parks. In 1941 the Tolan Committee found it a seething boom-town, with housing at the core of every problem and controversy. And today, with vacancies nil and both public and private construction falling behind, at least 25,000 more workers will have to be imported. Most of them will probably have families.

A survey made last January showed that only half of the families who arrived in 1941 had actually been able to find separate dwellings—and heaven knows how many of these were mere furnished rooms, make-shift shacks or outright slums. All the rest are either doubled up with other families or living in hotels or trailers.

All elastic factors are now stretched to the limit. In fact, thousands of families already here will move if conditions aren't improved. The estimate by one public agency that at least 12,000 more dwellings must be provided as soon as possible seems conservative if anything.

Meanwhile, the outlook for future housing is extremely dismal on the Washington end. Lack of top priority ratings is holding up practically all residential building in the region (although ordinary private homes for sale are still getting preferential treatment over public housing in many localities, even though the latter are

rigidly designed, and for rent solely to war workers). No more money is available for public construction until Congress acts. And the general tone of most housing officials is rather apologetic, as if it might seem unpatriotic to do anything but bow their heads.

I wonder. I wonder if we aren't still drifting along under the delusion that decent housing for war workers is just a socially desirable thing, nice if you can get it but not absolutely essential to winning the war.

But just ask Ed Gott, here at Consolidated. Ask the Kaiser people in Richmond and Vancouver and Sausalito if housing is just a social problem. Ask them what is the greatest production obstacle on the coast. They will say, "the supply of labor," and they will say, "turnover." And they will say with emphatic finality that lack of housing is a major cause.

It is said that turnover at Consolidated is 5 per cent a month—thousands of workers. It is even higher in other plants out here. And over and over in dry statistical reports occur sentences like the following: "The migration of workers into the area has fallen off considerably, while the movement of workers out of the country has continued to increase." Unemotional words, but perhaps we should be a little more emotional about their implications. Americans are the most adaptable people in the world. But if a family cannot find reasonably decent and convenient shelter, at a price they can pay, they naturally move on . . . or they don't come at all.

One thing seems clear. We can't just drift into cutting down the housing program. There **are** alternatives, but instead of being whispered dolefully they should be presented to Congress in no uncertain terms. If we don't do at least a bare minimum of new housing in critical spots like San Diego, then we must do some other things that may be even harder: (1) compulsory billeting; (2) compulsory evacuation of nonessential citizens; and/or (3) something amounting to an industrial draft, which will bring needed workers in but force their dependents to stay behind. (And I mean "force"; even the Army and Navy have thus far been unable to prevent families from following their men-folk.) I rather imagine that Congress and the people of this country might want to make sure that every scrap of materials had been rounded up or converted from nonessential use, and every ounce of ingenuity tapped, before embarking on such drastic measures.

If we could still afford to gamble on a short war, the answer might be different. But can we?

So now, if there should be more housing, who ought to build it? First consider the conditions.

From now on, it seems obvious, all new housing should be solely and directly for occupancy by war workers. It should be for rent, because of future uncertainties. (If a worker can save a few dollars, it's certainly sounder for him to put it into war bonds than into a dubious equity.) And most of it must reach workers making 75 to 85 cents an hour, which means around $25 to $35 or $40 rent a month. Transportation and utility difficulties may mean building in areas not sound for permanent housing, even assuming that more permanent homes could be absorbed in these communities. This also means demountability, or outright temporary construction. It will have to be done quickly, in large projects, using every time-saving, labor-saving and material-saving device that progressive designers and fabricators can concoct. Essential community facilities must be included—nursery schools above all, perhaps, if women are to be freed to work in factories as anticipated. Basic furnishings may have to be provided in many cases. The housing must measure up to definite minimum standards of sanitation and privacy to be worth doing at all, but even so it will be pretty far removed from our normal expectation of what a new home should be like. (Some of the new so-called "war apartments" seem to me pretty near that line, incidentally.)

These are the conditions. What private builder or banker wants seriously to **invest** in much housing? Obviously, if it's useful only for the duration it can't be expected to pay

out. The only choice is between direct public funds—and complete public insurance of private investments, including a guarantee of enough profit to provide an incentive. (In actual practice, FHA's Title VI does this already, of course.) Need I point out which course is likely to cost the tax-payers most in the long run?

Sometimes one hears, however, that it's the experience of the speculative builder we must utilize, at any cost. But just what experience has he had in the field just outlined? Of the 10,000 new homes provided by private enterprise in the San Diego area in the last thirty months, practically all have been of traditional design and construction, built for sale a few at a time, and for the most part too expensive for typical war workers. They have greatly eased the housing situation, true enough, but in an indirect way we can no longer afford.

As for the 10,000 public housing units built or started here, some bad mistakes certainly have been made. But large-scale planning methods have been used. Contractors competent to handle mass fabrication quickly have been employed. And rents are within reach of war workers. These projects are not Utopian and they will be less so in the future, but they do by and large meet the immediate need. And many of the early mistakes could have been avoided if unduly nervous property interests had not prevented the establishment of a local housing authority to take things in hand, as was done in most other cities.

Within this rigid frame, therefore, it seems to me that all common sense lies now on the side of public enterprise. Where their experience and equipment qualifies them, local private builders should be used as contractors much more than they have been. But **don't** let's haggle over a political compromise, dividing the field. Everyone agrees there is a shortage of materials. Isn't it better to have two families living in frankly temporary minimum rented quarters than to have one buy a fine small home they probably won't be able to hang on to—and the other sleep in their car?

It seems to me that the one vital immediate thing to help San Diego today—and all the other similar communities—is the passage of H. R. 7312, the amendment to the Lanham Act which would provide more funds for public war housing.

One major source of opposition has been the fear that this great monster Public Housing would fatten on the emergency and leave housing authorities strong enough to undertake horrendous enterprise after the war. Well, a superficial answer is the fact that little war housing will be attractive enough, from now on anyway, to bring much prestige to its builders. Quite the contrary. It may prove a boomerang.

But more seriously, the war is giving us one thing that's been almost universally demanded for years. It's giving us vast laboratory experience with experimental building methods and prefabrication, with large scale community planning, with rental management and upkeep, and with stream-lined production processes. The present results may be reduced to barest bones, but this experience can revitalize the much-maligned building industry after the war.

Public initiative will still be needed to rehouse families from outright slums. But in between that special field and the traditional private building market lies a vast no-man's land. It belongs to those progressive builders and investors who are prepared to use modern planning and construction methods to the limit, to design stable communities, and to give up quick speculative profits in exchange for sound long-term investment.

REPORT OF ANNUAL CONVENTION, S. A. C. A.

By J. FRANCIS WARD, Chairman
Public Relations Committee

The 15th Annual Convention of the State Association of California Architects was held on October 9 and 10 at the Mark Hopkins Hotel, San Francisco. The Convention was streamlined to meet the present conditions under which so many architects are working and into the morning and afternoon sessions, which were held on Saturday, the 10th, was crowded the whole business of the Convention. The morning session was devoted to a Speakers' Forum consisting of the following speakers and their subjects.

Adrien Falk of the San Francisco Chamber of Commerce welcomed the delegates and after the opening address by Norman K. Blanchard, President of the Association, the meeting was turned over to J. Francis Ward, who acted as Chairman of the Speakers' Forum.

Eugene Weston of the National Housing Administration was the first speaker. He pointed out that a comprehensive program is being drawn up to provide for conversion of existing buildings to the needs of the vest influx of migrant workers who have been called to various strategic areas.

Langdon W. Post, Director Region X, Federal Public Housing Administration, spoke on War Housing. Mr. Post dealt with the structure of the F.P.H.A. and the local housing authorities. He emphasized the necessity of an amendment to the Lanham Act whereby most war housing should, of necessity, be torn down at the end of the war. He complimented the architectural profession on the manner in which architects had achieved the impossible in the speed and ingenuity shown in producing plans and specifications for the vast war housing schemes.

Pierce Williams, Director of the Federal Works Agency, chose the subject "Looking Forward" and expressed the thought that there would be an even greater degree of Government control than we have had in the past and it was up to us to express ourselves more fully through our Government. He visualized the Pacific Area as the center of the world's future development in which the Pacific Coast would naturally take a leading share.

L. Deming Tilton, Consultant for the City Planning Commission of San Francisco, spoke on "The Role of the Architect in Post War Planning" and drew attention to the fact that the architects' clients will continue to be Government agencies and large groups rather than the individual clients of the pre-war era. He stated that this should be a challenge to architects to equip themselves with the understanding and requirements to meet and solve the problems ahead.

Anson Boyd, Chief of the State Division of Architecture, gave a brief outline of the work of the division.

An interesting analysis of the mechanics of developing a War Housing project was given by **Maurice J. Wilsei,** recently appointed consultant on War Housing to the Governor of California. He stressed the necessity of having the architect "sit in" on the project from the point of site selection to the completion.

The afternoon session was presided over by Walter Hagedohm, President of the Southern Section, and the following committee reports were presented:

Vincent G. Raney, Committee Chairman, gave a report of the activities of the Legislative Committee. Has had several conferences with Mr. White, the Examining Board's representative. He recommended written notice be given to the owner by anyone preparing plans if he is not an architect for all except buildings of wood, not more than two stories and for two families.

J. Francis Ward, Northern Section Committee Chairman of the Public Relations, and Director of Air Raid Protection Advisory Board, reported that most of the activities had been directed towards Air Raid Protection work. He reported that 250 architects contributed $5.00 apiece and that $250.00 had been given by the Producer's Council, Women's Auxiliary and others. Philip Soljak did a fine job as Public Relations Counsel. A brief account of the radio and publicity work in the past year was given in the report.

The reports of the Southern Section Committees on Public Relations and Air Raid Protection were also given. It was stated that over 300 members were either in the armed services or engaged in war work.

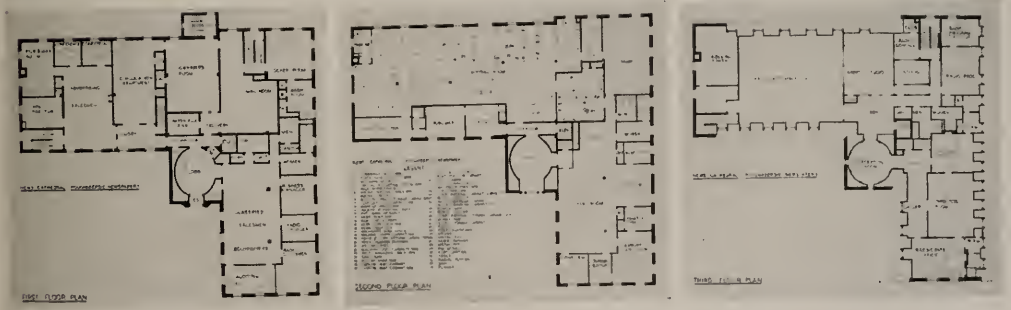
Mr. Hagedohm presented a comprehensive report of the work of the Southern Section in Camouflage. He stated that the Southern Section has been very active and has actually executed a number of large projects in collaboration with the Army engineers. He showed samples of camouflage materials such as chicken feathers, spun glass, and other unusual materials.

The afternoon session closed with a report of the Northern and Southern Section elections which resulted as follows:

Northern Section

President—Norman K. Blanchard.
Vice President—Russell C. deLappe.
Secretary—Hervey P. Clark.
Treasurer—David Horn.

(Turn to Page 38)



Perspective and Plans for new home of the Speidel Newspapers, Inc., Poughkeepsie, N. Y.

UNUSUAL DESIGN FOR NEWSPAPER PLANT

A radical departure from the customary design of a newspaper plant is found in the recently accepted plans for the new home of the Speidel Newspapers, Inc., publishers of three merged dailies in Poughkeepsie, N.Y.

Healthful working conditions for employees, comfort and convenience for both the public and the employees, as well as beauty, utility and efficiency, are motives that have influenced plans for the new building, styled by its owners, the "News Cathedral."

Hudson Valley traditions will be faithfully

preserved in the construction of the building. The architectural motif will suggest that era of Colonial America for which Dutchess County is famed among historians, and the exterior of the building will be done in native Dutchess County field stone.

Atop the third story of the building is the "Captain's Walk."

A great tower in the center of the ell extends to a height of 80 feet, or equivalent to an eight-story building. The tower is 23 feet square up to the third story. Here it steps back two feet to an observation tower, 19 feet square, with a cut stone railing. Above this is a Colonial clock tower, 12 feet square, and enclosing four illuminated clocks whose dials are each five feet in diameter.

Surmounting the spire, which is 130 feet above the New Market Street sidewalk, is a large weathervane replica of the "Half Moon," the famous sailing vessel in which Henry Hudson discovered the Hudson River.

The building will be fire-proof throughout. The walls will be faced on the outside with stone and on the inside with structural brick. All floors and columns will be reinforced concrete. The slate roof of the building will be insulated throughout against heat and cold.

The style of architecture of the building originated in the Hudson Valley. It was evolved by the early Dutch settlers who came to the United States from the Palatine section of what is now Central Europe. The Dutch immigrants used the native stone which they gathered from the fields for the construction of their homes and grist mills. They built them of heavy stone walls for protection against Indian attacks and from severe weather.

Later, retired sea captains along the Atlantic seaboard incorporated into their homes fundamental construction principles given to them by the early Dutch immigrants, and built walks along the roofs of their homes to watch for ships. Thus was begun the heritage of the "Captain's Walk" which has been incorporated in the design of the building.

From the third floor hallway of the "News Cathedral" a steel stairway will afford access to the "Captain's Walk" on the roof of the building.

Recessed lamps in each flight of steps leading to the terrace will illuminate them at night. Flood lights behind parapets on each gable will be trained on each clock dial in the tower. The clock dials will be five feet in diameter, and will be made of ground glass so that they may be illuminated also from within. Five big lamps concealed by the terrace ballustrade will floodlight the entire building at night.

Benham & Richards of Columbus, Ohio, and Charles J. Cooke, of Poughkeepsie, are the architects.

ANNUAL STATE CONVENTION

(Continued from Page 36)

New Directors—John Bolles, Vincent Raney, Malcolm Reynolds, Alfred C. Williams.

Previous Directors carried over—J. Francis Ward, Andrew Haas, Frederick Reimers.

Southern Section

President—Walter Hagedohm.

Vice President—Robert H. Orr.

Secretary—Adrien Wilson.

Treasurer—George E. Gable.

New Directors—E. Kieth Lockard, Winsor Soule, Wm. Johnson.

The Resolutions Committee was "snowed under" by the number of resolutions submitted and their report will be forwarded to the members of the respective sections in the near future, accompanied by ballot forms.

Many important resolutions were under consideration, mostly directed towards the war effort in which architects are so fully occupied.

Reference was made at the convention from time to time to the many members of the profession now serving in the armed services. These include Mr. Wayne Hertzka, President of the State Association of California Architects up to the time of his departure some months ago.

Considering the conditions, the Convention was well attended not only by the Northern Section but by a good representation from the South. As usual the Producer's Council participated actively and under the able leadership of their President, Gano Baker, not only attended the sessions but, in addition, sponsored a very successful cocktail party prior to the dinner, which was attended by 150 people. The guests were introduced by Clark Weyland, Toastmaster, and included Henry Powers, President of the Structural Engineer, and Mr. and Mrs. Deming Tilton.

The Chairman of the Convention Committee, Vincent Raney, worked hard to produce a smooth running and interesting program and his efforts were well rewarded in the number who attended and the precision with which the activities were run off.

CALIFORNIA HOUSING ASSOCIATION ADOPTS WAR-TIME PROGRAM

On September 26, 1942, at Los Angeles, the Second Annual State-wide Conference of the California Housing & Planning Association adjourned after deliberating and acting on problems of housing California's war workers, and on questions of long term significance to California's total economy. Approximately 200 registrants came from 33 communities. The states of Illinois, Virginia, Washington, and Arizona were represented in addition to California. The Conference attempted on the one hand to meet the immediate problems of rent control, establishment of nursery and day care for children of war workers, and above all the delays in securing adequate housing for war workers. The following resolutions covering these subjects were adopted unanimously:

I.

Resolution Adopted by Unanimous Vote
by the
Second Annual Statewide Conference of the California
Housing & Planning Association
September 25, 1942

WHEREAS, the urgency of providing housing for war workers is becoming increasingly acute in many areas, and

WHEREAS, divers war agencies are being forced to enter the war housing field contrary to the evident intent of the President's executive order establishing the National Housing Agency, and

WHEREAS, the California Housing & Planning Association is of the opinion that this situation results from certain defects in procedure and organization, and

WHEREAS, the present trend will undoubtedly lead to the confusion and overlapping of functions which existed prior to February, 1942, therefore,

BE IT RESOLVED that the California Housing and Planning Association in conference in Los Angeles on September 25, 1942 petitions the earnest consideration of Federal officials to the following suggestions:

1. That the process of determining need and certification be speeded up by all possible means and that Local Housing Authorities be given definite participation in establishing the need for housing.

2. That the War Production Board decentralize its functions for approval of war housing matters and provide for autonomous decisions in its regional offices to the end that contingencies which arise with regard to Limitation Orders and appeals may be determined locally.

3. At the time that a priority application is approved by the War Production Board for a project, that they either grant an adequate priority rating, equal to that of other agencies, or make an allotment of materials necessary to complete the project.

4. Where Local Housing Authorities are, or will be established that they be confirmed as the sole agencies to plan, build and manage all public war housing with the exceptions as stated in the President's executive order.

AND BE IT RESOLVED, that in making the above suggestions this Association reiterates and reaffirms the necessity of stripping all war housing, private as well as public, of critical materials.

AND FURTHER BE IT RESOLVED that copies of this resolution be sent to all appropriate Federal officials, and to all members of the California delegation in the House of Representatives and the United States Senate.

II.

Resolution Adopted by Unanimous Vote
by the
Second Annual Statewide Conference of the California
Housing & Planning Association
September 25, 1942

RESOLVED that the Conference of the California Housing & Planning Association in Conference at Los Angeles, September 25, 1942 urge the appropriate Federal officials to make provision for nursery schools, day care, and adequate recreational facilities in all public housing projects, and in dense population areas where there has been an influx of war workers.

III.

Resolution Adopted by Unanimous Vote
by the
Second Annual Statewide Conference of the California
Housing & Planning Association
September 25, 1942

RESOLVED that the Conference of the California Housing & Planning Association memorialize Administrator Henderson of the Office of Price Administration to establish without delay an area rent control office for the Los Angeles Region, in order that the purposes of the Federal government in maintaining fair rent conditions may be fulfilled.

The formulation of these resolutions was greatly influenced by the executives and chairmen of housing authorities who attended the Conference in considerable numbers. Sixteen housing authorities from California, two from Arizona, and one from the state of Washington were represented. Concurrently with the

CHPA Conference, the Western States Housing Authorities Association held independent meetings, and in addition to discussion of technical problems of immediate concern to Housing Authorities, the Association endorsed Resolution No. I.

Audience discussion of standards and amenities resulted in authorization to Howard Moise, CHPA President, to appoint a committee to study and to report on this question at a later date. The following architects comprise the committee: Robert E. Alexander, Chairman; Richard Neutra, W. F. Ruck, George J. Adams, William W. Wurster.

In an effort to meet the Conference challenge — that CALIFORNIA MUST PLAN NOW — the Conference laid down the planks of a post-war program. It was generally agreed that while the precise nature of all post-war problems cannot be foretold at this time, there are nevertheless specific measures which can and should be fostered as a means of working out orderly patterns of life in the critical post-war period. These views are crystalized and summarized in the following resolution, and statement of program for the California Housing & Planning Association:

RESOLUTION FOR POST WAR RECONSTRUCTION

We believe that democracy can and must solve the problem of making an international mass production economy work, by maintaining high level production and full employment, by achieving high level standards of consumption for all people, and by using the earth's resources to produce an efficient, high-quality environment. This is the absolute condition, not only of world peace, but also of civilized survival. And we believe that planning and action must begin now if these problems are to be solved in time when peace comes. To achieve these ends we urge:

The High Command of the United Nations

To affirm and publicly to adopt a similar positive statement of war aims in amplification of the "Four Freedoms," as an essential and belated war measure; and

To take immediate and comprehensive joint action, in order to plan for reorganization and reconstruction of the world on these principles.

The Congress of the United States and the President

To assign the responsibility for stimulating, coordinating and aiding post-war planning in the United States to one agency; and

To develop adequate facilities for national planning out of the nucleus provided by the National Resources Planning Board.

Each State and Locality

To create effective planning instruments **now,** with authority coordinated on a regional basis; and

To make master plans and prepare programs **now** for post-war conversion and development of each region and locality, again within the framework of the national and international purposes and plans.

CHPA Program of Action

Adequate plans and programs for post-war reconstruction will at all levels include many different concrete aspects, each of which will require separate expert analysis **and** the closest possible integration with and adjustment to overall economic, social, and land-use policy. Specific problems include: transformation of war industries and the stimulation of new enterprise in suitable localities; modernization of the transportation and communication system; the development of power, water, and other resources to open up sound opportunities for farm resettlement and new industry; a housing program for all income groups; renovation of the building industry; neighborhood redevelopment to eliminate both urban blight and suburban shacktowns; standards for health, recreation and education facilities.

The California Housing and Planning Association proposes to keep its members informed of major developments and possibilities in the whole field, international as well as local, and to take positive action whenever this may seem necessary. At the present time, however, we feel that there are four specific activities in which informed citizens of California can participate most fruitfully:

1. Strengthen local planning commissions by increasing their funds, improving their staff, and extending their powers and jurisdiction, to enable them to develop intelligent and realistic regional master plans and to establish effective land-use controls;
2. Devise and promote an effective mechanism for redevelopment of blighted urban and rural neighborhoods on a large-scale basis;
3. Prepare for a comprehensive housing program to meet the needs of all income groups in urban and rural areas, by publicizing the basic facts, strengthening local housing authorities, and facilitating new types of non-speculative private building enterprise suitable for the development of large-scale projects on a neighborhood basis;
4. Participate actively in the Central Valley Planning studies and encourage direct interest and enlightened support in the Valley, to the end that cheap power and new irrigation water may result in a more stable agricultural pattern, sound opportunity for farm settlement and new industry, and improved social and civic welfare throughout the region.

The test for planning in a democracy is the degree of understanding and responsible participation by its citizens.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER OF THE AMERICAN INSTITUTE OF ARCHITECTS

Editor

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ARCHITECTS IN SERVICE

From the Bethlehem, Alameda Shipyard came a letter which arrived too late to find place in the Bulletin but appeared on Page 11 of the August ARCHITECT & ENGINEER. It listed the various architects rendering "splendid service" such as Irving Morrow, Albert Larsen, Wallace Hubbert, George Ellinger, E. R. Comstock, Mario Ciampi, Ralph Berger, Earle Bertz, Gwynn Officer—and ends with a fine tribute: "The way in which the above architects have worked into our program and assisted in the development of our Alameda shipbuilding facilities has been encouraging. They are to be commended for their efforts in this war emergency program."

It is encouraging to architects, too, to receive such frank appreciation from a great engineering industry.

City Planner

Engaged as full-time consultant to the San Francisco Planning Commission, Mr. L. Deming Tilton will succeed Mr. Ernest Goodrich, who was unable to devote all of his time to the western city. Mr. George Melville, planning engineer and representative of Mr. Goodrich, will be retained to assist Mr. Tilton.

To develop such a long-range, flexible program, the continuous services of a competent, experienced planning expert are essential. Added to the normal problems are now the provisions that should be made for post-war adjustments. The Commission expresses its belief that in Mr. Tilton they have found the right man.

After graduating as landscape engineer from the University of Illinois, he was for 15 years with the well-known firm of Harland Bartholomew and Associates, of St. Louis. He has been with the California State Planning Board since 1934 (recently administrative officer) and for several years director and consultant of planning for Santa Barbara, San Diego and Orange counties. He is acting regional director of the National Resources Planning Board, and site planning consultant for the Ninth Zone Construction Quartermaster, U.S.A., and he is a member of the American Society of Landscape Architects, the American Society of Planners, and the California Planners' Institute.

Second Conference

The Second Annual Conference of the California Housing and Planning Association was scheduled for September 24-26 in Los Angeles, too late for a factual report at this writing. However, an interesting program was announced, dealing with such varied subjects as War Housing, Post-War Development, the California Shack-town, Housing and Planning in Latin America, and the postwar outlook from the viewpoints of labor, business and industry, and agriculture. The program stated a hope "that the major issues may be pinned down and clarified for effective action." The hope is notable and commendable. A more detailed report of the Conference appears elsewhere in this issue.

In this effort toward sound planning it would be encouraging to observe the participation of more architects, those citizens who are especially qualified

for sound planning by training and experience. The names of Professor Moise and Eugene Weston are featured, but officially rather than professionally. Presumably others of our profession will be found under the omnipresent heading "Discussion."

SACA Convention

Here again the writer is caught between two fires —too late to invite, too early to report. But it can be noted that our Convention was boiled down to one day for those with limited time. All of the talking and voting took place on Saturday, October 10th; with Board meetings Friday afternoon and Sunday morning, and with dining, dancing and other forms of athletic diversion and competition sandwiched in, between and around.

Valedictory

With this issue the Bulletin editor takes his last bow. He has somehow or other gotten out the Bulletin for more years than he can remember, and very likely to many of our members it has seemed like even more years than that. At any rate, it has been more of a labor of love than of duty, and since the Association has passed its adolescence and grown to vigorous maturity during these years of stress and storm, he may be pardoned for a natural pride in his associations with the Association, from its very inception to its present status as recognized leader in the great movement for national unification of the architectural profession.

And so, to bed; and to dreams of a future when California will again call on the Brotherhood of Architects to direct its development, along the ways of strength and safety and beauty.

Camouflage vs. Protective Construction

At a recent meeting of the Southern Section State Association of California Architects, Otto N. Rugen of the U. S. District Engineer's Office, Los Angeles, declared that war work demanded the full co-operation of everyone working on a project. Architects, to successfully perform their function, must serve as members of a team, he said, rather than as individuals.

Without naming specific plants, the speaker discussed various phases of the work already done for protection of equipment and personnel in war industries, pointing to the differences between camouflage and protective construction. Recalling that camouflage, designed to blend a target with the surrounding area, offered no protection to plant or workers in the event of an attack, Mr. Rugen said his section dealt with the physical protection of equipment and personnel. At one large airplane manufacturing center bomb shelters were erected outside the plant. This, while affording maximum protection to the workers, is not particularly satisfactory, he said, citing the difficulty of evacuating large numbers of persons under emergency conditions.

Methods of coping with shattered glass and providing adequate ventilation in blacked-out factories were two of the major problems confronted by protective construction engineers, Mr. Rugen told the group. Another major problem was the co-ordination of protective construction work without slowing up production. Mr. Rugen said a survey had been made to determine what plants were most vital to the war effort.

TALK ON FIRE PREVENTION

At the regular monthly dinner meeting of the Structural Engineers Association of Northern California, held at the Engineers' Club, San Francisco, Tuesday evening, October 6, Marshall K. Rouse, Superintendent of the Schedule Department, Board of Fire Underwriters of the Pacific, delivered an interesting address on "Construction and the Spread of Fire." The speaker answered a number of questions of special interest to his listeners, and explained that fire is still the nation's No. 1 menace. Being an authority on the subject his talk was highly informative.

* * *

Charles A. Whitton has been busy on defense work; reconstructing the shops of large schools such as the Technical High for special vocational defense training in diesel engine design. He is also completing a new 12-room elementary school for San Francisco.

* * *

William C. Tait has a million dollar housing project at Vallejo, plus an $8,000,000 barrack at Bremerton.

* * *

Harold M. Engle has been busy on work for the United States Navy, assisted by Mac D. Perkins.

* * *

H. C. Vensano has been appointed new City Director of Public Works of the City and County of San Francisco.

* * *

Mark Falk, former president of the Structural Engineers Association of Southern California, is now located at No. 251 Kearny Street, San Francisco.

* * *

Jack Oldenburg has received a commission in the United States Naval Reserve and has requested a leave of absence. **Edwin S. Banta,** who has been with the San Francisco district office of H. H. Robertson Co., will now be in charge.

* * *

John J. Gould and **Henry J. Degenkolb** are both extremely busy completing their report to the San Francisco Section of ASCE on the "Exposition Timber Test Program."

* * *

William Ellison of San Francisco was structural engineer and designer of the recently completed National Motor Bearing Company's huge plant at Redwood City. Barrett and Hilp were the general contractors.

DESIGNED LIKE AN EIGHT POINTED STAR

Construction photograph of Canadian Lake Louise Hotel

UNIQUE WELDED STEEL HOTEL

The most unique and interesting of all welded steel buildings ever built, according to leading architects, is the Canadian Lake Louise Hotel, designed like an eight-pointed star—with one ray cut away for the front entrance. Walls, roof and dome were made from 12 gage mild steel plate pre-fabricated on the site into panel sections. Over 250 tons of steel were used for the panels and 60 tons of insulation were put into the walls and ceilings.

Each ray section of the hotel is 125 feet long, 32 feet wide, and 9 feet 4 inches in height. The center dome is 100 feet in diameter with no central supports. It consists of regular panel sections staggered in welded rows. A special jig, consisting of a center pole with swinging boom, was used to place the dome panels and to support a platform for overhead welding on inside of dome.

A crew of 20 welders and 20 set-up men constructed the building in six weeks. Some 12.7 miles of weld was necessary to finish the hotel. Thirty thousand pounds of mild steel welding electrodes were used on the job.

The hotel has 70 rooms in four of its wings; dormitory in each of two other wings; dining hall and kitchen in the seventh wing. The hotel's huge dome will seat 1600 people.

All of the water pipes, steam pipes, and sewer pipes were brazed together. Main feed lines were put around the lobby section with four feeder lines running down each side of the wing on the outside. These feeder

Aerial photograph of completed building By Hobart Bros.

lines were put into a box and insulated. Since these lines supplied hot and cold water, steam heat and sewerage, they had to be separated by insulation.

The floor is reinforced concrete six inches thick. Junior six inch "I" beams were used on the outside of the concrete and also across the concrete for welding the wall panels to and for expansion joints.

ENGINEERS AND ARCHITECTS ASSOCIATION

The Engineers and Architects Association of Los Angeles hope to have a building of their own after the war and to this end preliminary plans have already been prepared by Julius Boehmer, 16 West Cherry Avenue, Flagstaff, Arizona. The need of such a building has long been felt.

Thursday evening, September 24, the Association members banqueted at the Cabrillo Hotel and listened to a talk by Roy Huggins on the War Manpower Commission, the Office of Emergency Management and the U. S. Employment Service. Other speakers included J. F. Moroney, L. A. County Clerk, and C. J. Reid of the Douglas Aircraft Corporation.

HIGH SCHOOL AUDITORIUM

The Live Oak Union High School District has been given priorities to complete the school auditorium at Morgan Hill from plans by William H. Rowe of San Mateo. The cost will approximate $30,000.

FOR VICTORY TODAY AND SOUND BUSINESS TOMORROW

Get This Flag Flying Now!

This War Savings Flag which flies today over companies, large and small, all across the land means *business.* It means, first, that 10% of the company's gross pay roll is being invested in War Bonds by the workers voluntarily.

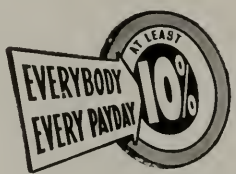
It also means that the employees of all these companies are doing their part for Victory . . . by helping to buy the guns, tanks, and planes that America and her allies *must* have to win.

It means that billions of dollars are being diverted from "bidding" for the constantly shrinking stock of goods available, thus putting a brake on inflation. And it means that billions of dollars will be held in readiness for post-war readjustment.

Think what 10% of the national income, saved in War Bonds now, month after month, can buy when the war ends!

For Victory today . . . and prosperity *tomorrow,* keep the War Bond Pay-roll Savings Plan rolling in *your* firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Pay-roll Savings Plan, *now is the time to do so.* For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.



Save With

War Savings Bonds

This Space Is a Contribution to America's All-Out War Program by

ARCHITECT AND ENGINEER

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.
Government work ¾%.

Brickwork—

Common, $40 to $45 per 1000 laid, (according to class of work).
Face, $90 to $100 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.00 lin. ft.
Brick Veneer on frame buildings, $1.00 sq. ft.
Common f.o.b. cars, $15.00 at yard. Cartage extra.
Face, f.o.b. cars, $40.00 to $60.00 per 1000, carload lots.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.45 per ton at bunker; delivered to any point in S. F. County $1.85.

	Bunker	Delivered
Top sand	$1.45	$1.85
Concrete mix	1.45	1.85
Crushed rock, ¼ to ¾	1.60	2.00
Crushed rock, ¾ to 1½	1.60	2.00
Roofing gravel	1.60	2.00
City gravel	1.45	1.85
River sand	1.50	1.90

Bank sand—$1.00 per cubic yard at bunker or delivered.

SAND—

	Bunker	Delivered
River sand	$1.50	$1.85
Lapis (Nos. 2 & 4)	2.00	2.40
Olympia Nos. 1 & 2	1.80	2.20
Healdsburg plaster sand	$1.80	and $2.20
Del Monte white	50c	per sack

Common cement (all brands, paper sacks) carload lots $2.52 per bbl. f.o.b. car; delivered, $2.80; less than carloads delivered, 70c per sack.
Cash discount on carload lots, 10c a barrel, 10th Prox.; cash discount less than carload lots, 2%.

Atlas White, Calaveras White, Meduse White — 1 to 100 sacks, $2.00 sack, warehouse or delivery.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.: with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13/16x2¼" T&G	⅝x2" T&G	½x2" Sq.Ed.
Clr. Qtd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Qtd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$43.00 per M
No. 2 common	41.00 per M
Select O. P. common	46.00 per M
2x4 No. 3 farm lumber	32.00 per M
1x4 No. 2 flooring VG	90.00 per M
1x4 No. 3 flooring VG	85.00 per M
1x6 No. 2 flooring VG	96.00 per M
1¼x4 and 6, No. 2 flooring	95.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	48.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.45 per bdle.

Plywood—Douglas Fir (add cartage)—

"Plyscord" sheathing (unsanded)	
⅜" 3-ply and 48"x96"	$39.75 per M
"Fivwall" (wallboard grade)—	
¼" 3-ply 48"x96"	$43.70 per M
"Plyform" (concrete form grade)—	
⅝" 5-ply 48"x96"	$117.30 per M
Exterior Plywood Siding—	
⅜" 5-ply Fir	$132.00 per M
Redwood (Rustic) 1"x8" clear heart	$ 95.00 per M

$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $120.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, 65c per gal., in 5 gal. cans, and 55c per gal. in drums.
Raw Linseed Oil—95c gal. in light drums.
Boiled Linseed Oil—98c gal. in drums and $1.08 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11¾c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12½c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11¾c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12½c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12¾c
500 lbs. and less than 1 ton	13c
Less than 500 lb. lots	13½c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.50
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	.72
3 coats, metal lath and plaster	1.25
Keene cement on metal lath	1.30
Ceilings with ¾ hot roll channels metal lath (lathed only)	.90
Ceilings with ¾ hot roll channels metal lath plastered	1.80
Single partition ¾ channel lath 1 side (lath only	.85
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	1.70
4-inch double partition ¾ channel lath 2 sides plastered	3.30
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	2.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	3.40
3 coats over 1" Thermax nailed to one side wood studs or joists	1.25
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75

Wood lath, $5.50 to $6.50 per 1000.

2.5-lb. metal lath (dipped)	.19
2.5-lb. metal lath (galvanized)	.21
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.24

¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $19.50 ton.

Plasterers Wage Scale	$1.67 per hour
Lathers Wage Scale	1.60 per hour
Hod Carriers Wage Scale	1.40 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure ..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.50

Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware, $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00. Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)

Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft.
4 x 6 x 12	1.15 sq. ft.
2 x 8 x 16	1.10 sq. ft.
4 x 8 x 16	1.30 sq. ft.

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1942 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

*6-hour day **7-hour day

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.75	* 2.00	* 1.79-1/6	* 1.75	* 1.75
BRICKLAYERS' HODCARRIERS	* 1.35	* 1.25	* 1.05	* 1.25	* 1.05	* 1.35	* 1.35	* 1.40	* 1.14
CARPENTERS	1.37½	1.37½	1.25	1.37½	1.25	1.25	1.37½	1.25	1.25
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.60	* 1.75	* 1.75	* 1.50	* 1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	** 1.37½	** 1.50	** 1.28-4/7	** 1.37½	1.25	** 1.35-5/7	** 1.42-6/7	** 1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	* 1.66-2/3	* 1.66-2/3	* 1.75	* 1.66-2/3	1.75	* 2.00	* 2.00	* 1.75	* 1.83-1/3
PLASTERERS' HODCARRIERS	* 1.50	* 1.45	* 1.40	* 1.40	* 1.18¾	* 1.35	* 1.75	* 1.40	* 1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	* 1.50	* 1.75	1.50	* 1.75	* 1.75	* 1.50	1.75	* 1.75	* 1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

WHAT THE ARCHITECTS ARE DOING

UNPROFESSIONAL CONDUCT CHARGED

The California State Board of Architectural Examiners has dismissed the charges of unprofessional conduct filed against Geo. C. Sellon, architect of Sacramento. The complaint charged the defendant with receiving fees in part from the contractor and permitting administration of the building operation to be conducted in a confusing manner. The board was not disposed to impose a penalty in view of the fact that all parties concerned, including owner and contractor, were jointly aware from the start of irregularities in their contractual relations.

GORDON B. KAUFMANN AND ASSOCIATES

Gordon B. Kaufmann and Associates is the name of the new organization which will carry on the architectural business of Mr. Kaufman at 627 South Carondelet Street, Los Angeles. The group consists of Gordon B. Kaufmann, F.A.I.A.; R. E. Backus, Architect; H. L. Eggers, A.I.A.; J. H. Hall, chief of production, and H. A. Hilliard, auditor. Mr. Kaufmann, now a lieutenant Colonel in the Chemical Warfare of the Army, will be in the service for the duration.

ARCHITECTS' AUXILIARY

Members of the Architects' Auxiliary met October 7 to continue their program of war work, as planned by Mrs. A. Appleton, Chairman of the War Work Committee.

The meeting was held at the Women's City Club, following luncheon served at 12:30.

Mrs. Martin A. Rist, Chairman of work for the day, programmed work on "chuckle books" to cheer the hospitalized.

CHARLES E. BUTNER BUSY

Charles E. Butner, architect of Salinas, reports a Federal grant of $110,000 for constructing a community hospital of 84 beds at Salinas. Construction will be one story frame and stucco.

The same architect has completed plans for several buildings needed in connection with the Guayule Rubber Project. All are frame buildings with an estimated cost of $125,000.

GRAMMAR SCHOOL ADDITION

Harold H. Weeks, architect, Balboa Building, San Francisco, has completed plans and taken bids for a five class room addition to the Benicia school. Construction has been authorized by the Emergency Operations Unit, Public Buildings Administration, Washington, D. C.

ARCHITECTS STILL ON THE MOVE

Floyd B. Comstock has moved from 5827 Patton Street, Oakland, to R. F. D. No. 1, Walnut Creek.

John N. Douglas from 408 Ninita Parkway, Pasadena, to 888 Victoria Drive, same city.

Lawrence W. Gentry, former address Post Office Box 713, Carmel, now Box 352, Los Altos.

D. L. Harden has moved from 1415 Jefferson Street, Salem, Oregon, to 1005 Jessup Street, Portland, Ore.

Gilbert Hodgeson from 1212 Cherry Street, San Carlos, to 288 Hillview Ave., Redwood City.

Walter E. Mooney from 925 El Camino Real, Burlingame, to 1229 Ulloa Street, San Francisco.

Smith, Carroll & Johanson from Central Insurance Building, Seattle, to 2800 Smith Tower, Seattle.

Frederick L. Swartz, from 518 Brix Building, Fresno, to 1022 Cambridge Avenue.

James D. Wickenden from 585 Santa Rosa Road, Berkeley, to 762 Vincente Avenue, same city.

William Bain from 1002 Textile Tower, Seattle, Washington, to 1157 Harvard North, same city.

Elizibeth Boyter from 1720 Leanenworth Street, San Francisco, to 316 Kipling Street, Palo Alto.

Robert L. Durham from 9310 California Avenue, Seattle, Washington, to 4th and Cherry Building, same city.

Michael Goodman from 2121 Allston Way, Berkeley, to 1400 Hawthorne Terrace, same city.

Hertzka & Knowles from care of W. A. Bechtel Company, 127 Broad Street, Globe, Arizona, to care of W. A. Bechtel Company, Morenci, Arizona.

George B. Reid, from Roosevelt Apartments, 201 East Ninth Street, Aberdeen, Washington, to care of Morck Hotel, Box 920, same city.

Butler Sturtevant, landscape architect, from 210 Post Street, San Francisco, to Major Butler S. Sturtevant, The Blackstone, Forth Worth, Texas.

William H. Toepke, from 74 New Montgomery Street, San Francisco, to 230 Chesterton Place, San Mateo.

Van Pelt & Lind, from 16 South Oakland Avenue, Pasadena, to 1212 South El Molino Avenue, same city.

George H. Wardner, Jr., from 911 Lewis Building, Portland, Oregon, to 3004 N. E. 21st Avenue, same city.

Irvin William Goldstine has moved back to his residence at 2030 Twelfth Avenue, San Francisco, from 1182 Market Street.

Paul Robinson Hunter has moved from 706 Architects' building, Los Angeles, to 836 South Masselin Avenue, same city.

Charles S. Pope from 424 Thirty-fifth Avenue, Seattle, Washington, to 308 Laurel Street, San Francisco.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

FIRE PREVENTION—"One of the pressing needs of the moment is to try to define what the fire problem is which is now facing us. It is clear that the most immediate problem is fire safety in industrial properties." This statement by the National Fire Protection Association is answered by Firepel, a timely chemical achievement for the treatment of unfinished wood, affording a practical method of successful fire retardation. What Firepel is and what it does is best described in a well printed and illustrated brochure issued by Albi Chemical Corporation, 9 Park Place, New York City.

FUEL OIL SAVING—A timely booklet illustrates the many ways in which heat escape can be checked in buildings. Its descriptive matter pertains largely to homes. More than fifty illustrations show the multiude of heat leaks in an ordinary home and the manner of correcting them is described. Write to Petroleum Industry Committee District 2, 624 South Michigan Ave., Chicago, and ask for "How to Save Fuel Oil."

HOME MODERNIZATION—In teeming war production areas, homes today have been called upon to open their doors and provide quarters for men and women toiling in factories. Here is a book offering practical ideas for improvements and changes in the home during these times. "A Wartime Guide to Better Homes" gives a comprehensive description of the construction work that can be done under present WPB regulations. Issued by The Celotex Corp., 120 South La Salle Street, Chicago.

HEATING DUCTS—Sal-Mo Supply Duct is a new, non-metallic asbestos-covered conduit, embodying built-in insulation, constructed of strong, light girder board and sealed against air loss. It is sized for painting, is fire retardant. Apparently it has everything metal has and more and a complete description of Sal-Mo can be obtained by writing Sall Mountain Co., 176 West Adams Street, Chicago, and asking for their booklet.

HEAT CONTROL—The manufacturers of Draft-O-Stat draft control tell us that their new "B" and "BM" controls can reduce fuel oil consumption by as much as 25 per cent by increasing the "cut-out" period. A four-page booklet is available, describing these new units. Write to The Hotstream Heater Co., 8007 Grand Ave., Cleveland, Ohio.

PLYWOOD—Yes, plywood is being assigned new duties and is doing new jobs. Plant operators, engineers and architects are urgently seeking vital information about this product. That is why two new looseleaf handbooks have been published: "Technical Data on Plywood" and "Industrial Uses of Plywood." They are free. Write to Douglas Fir Plywood Association, Tacoma, Washington.

STEAM GENERATORS—A new catalog of steam generators and necessities has been issued by the Vapor Car Heating Co., Inc., 80 East Jackson Blvd., Chicago. The Vapor "packaged steam" generator is useful wherever there is a demand for a steady source of steam or an indicated need for an emergency unit, the manufacturers state. The catalog also includes a spread of typical layouts, showing uses.

INSULATION—Here is another presentation on home insulation. "Facts You Should Know About Home Insulation" is issued by Armstrong Cork Co., Lancaster, Pa. It contains many construction suggestions as to how the home can be protected from heat loss, all incorporating the use of this company's line of building materials.

GLASS PRODUCTS—The Jubilee Issue of "Pittsburgh Plate Products" commemorating the 50th year of publication of this journal affords us a great deal of pleasure. Fifty years is a long time for continuous publication of a company magazine of this kind and this is one of the oldest in the country. A copy can be had from Pittsburgh Plate Glass Co., Pittsburgh, Pa.

STEEL STANDARDS—A complete combined list of standard steels of the American Iron and Steel Institute and the Society of Automotive Engineers, Inc., has been issued by the Babcock and Wilcox Tube Co., as a new technical data card. For a copy, write the Babcock and Wilcox Tube Co., Beaver Falls, Pa., and ask for TDC-119.

CARE OF WOODWORK—A total of forty-eight important rules for the proper care of doors, windows, etc., are presented in a handy, pocket-sized folder entitled, "Pointers on Care of Woodwork." A copy of the folder can be obtained by writing Ponderosa Pine Woodwork, 111 W. Washington St., Chicago, Ill.

CAMOUFLAGE

By Edwin R. Crick, Jr.

The camofleur who uses nets, chicken wire, paints and assorted materials must not fail; if he errs the loss in human life and vital property may be very great. He must succeed in mystifying and confusing the trained eyes of enemy observers. Camouflage then is the technique of concealing the identity and location of given objects for the purpose of befuddling the enemy.

In modern warfare the problems confronting the camouflage expert are somewhat different than those encountered in the last war. When recalling the impressions left by the camouflage techniques in the last war, most people immediately remember the zigzag or dazzle paint system of concealment. This method was used to paint ship transports and to camouflage gun emplacements. Sniper posts were hidden in dummy trees, and dummy animal carcasses were made of papier mache, and placed about the battle fields. This type of concealment was used primarily to hide and shield from observation all objects that could otherwise be seen by the enemy stationed in observation balloons, or in low-flying planes, and by military observers on the ground.

Today, the technique has changed. The swift bombing and observation planes flying at 10,000 to 30,000 feet are not particularly concerned with how small groups of soldiers conceal themselves. Their main mission and purpose is to cripple and destroy bigger game, large munition depots, steel plants and water works. The average precision bombing raid is carried out at 10,000 feet at amazing speeds—up to 350 miles per hour. The bombardier must be able to sight his objective or some known close reference point, and quickly set his sights in a time limit of about 40 to 50 seconds. If he fails to do this he must return over the target for another attempt. He knows his return trip will give the anti-aircraft guns below additional time to get him in their sights, and make it extremely unpleasant for himself and his crew members.

Camouflage, therefore, does not necessarily mean complete concealment in all cases. A delay in the adjustment of sights by the enemy bombardier means that the first step toward protective concealment has been accomplished. Successful camouflage of any target involves consideration of form, shadow, texture, and color.

Form. There are no straight lines or right angles in nature, and for effective camouflage any man-made angles or lines on the landscape must be eliminated by some method of concealment. Straight roads may be painted out in certain sections leading to a vital spot by the use of colored bituminous emulsion, used to simulate the appearance of grass when seen from the air. A fake road taking a false course can be installed by the use of cold protein paint, paste or powder form, in colors to match the main road. Such paint can usually be applied with a spray gun.

Large factories and plants with their many straight roof lines and rows of windows can best be hidden by nets interwoven with shredded canvas or cloth painted to blend with the surroundings, temporary wooden superstructure projected beyond the edges of the roof, or by real and painted bushes installed on the roof tops. These garnished nets are dyed or painted to simulate foliage texture. Old branches and trees are sometimes used to cover the nets.

Nature's colors, however, change with the season, so that any colors used to imitate nature must be changed also. Autumn leaves covering any object in the Spring would be an ineffective deception, easily recognized. Temporary installations must always conform to their natural colors, that is, colors of the surrounding areas. It is sometimes more advisable to plant natural bushes, trees, or shrubs, and thus eliminate the necessity of closely following nature's many changes.

Shadows. The second, and equally important problem, is one of camouflaging shadows cast by the objects themselves. Sometimes these straight shadows are even more visible from the air than the target.

Shadows may be broken up at their source by the same methods used in concealing form, that is by nets, paint, and bushes or trees. To absorb the tell-tale shadows on the ground it is often necessary to stain the surrounding grass areas in a dark color to break up or confuse the real shape of the shadow.

Texture. Proper texture of the target surface is also important. Painting a fake roadway or grass plot across a flat roof by the use of paint alone is ineffective. Although the colors may exactly match the road or the grass, the imitation will be easily recognized from the air because of the texture of the flat surface. Different surfaces give off varying amount of reflection.

To offset this condition, artificial textures are used by the simple method of mixing paint with dyed wood shavings, sawdust, or ground rock, to break up the naturally smooth surface of the objects being concealed. This necessity for texture explains one reason why present-day camouflage paints are in flat colors. The obvious reason for the use of flat paints is the absence of any gloss reflection which would be easily detected by the eyes of the trained observer. To gain additional texture other flat paints are sometimes mixed with sand and roofing granules.

Color. Color in camouflage work is probably not as important as form, shadow, and texture; but any color used, not directly related to the color in the natural surroundings, would be easily recognized. Colors are hard to identify when observed from high altitudes. Fog, smoke, and distance tend to make all colors appear gray.

Models. The many intricate patterns and colors of nature must therefore be closely followed when an attempt is made to carry these patterns over an object being camouflaged. As camouflage problems

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Manufacturers of
Hollow Metal Products • Interior Metal Trim
Elevator Fronts and Cabs
Metal Plaster Accessories • Sanitary Metal Base
Flat and Roll Metal Screens
Metal Cabinets • Commercial Refrigerators
269 POTRERO AVE.
SAN FRANCISCO, CALIF. HEMLOCK 4100

EXTERIOR STUCCO • INTERIOR
LATHING and PLASTERING
PERALTA and LOCKWOOD
HOUSING PROJECTS
BY
WILLIAM MAKIN
2141 LIVINGSTON STREET
OAKLAND, CALIFORNIA

become more complex and the objects to be concealed become larger and more unrelated to their surroundings, it is sometimes very helpful to construct scale models. They are usually made of wood, clay, sponges and cloth, and then painted in the proper plan decided upon. The model will, in most instances, illustrate on a small scale what to expect in the finished camouflage job.

MORE CUTS IN CIVILIAN CONSTRUCTION

Drastic cuts have been authorized by the War Production Board in the amount of civilian construction to be allowed without specific authorization under the provisions of a revision of conservation order L-41.

Types of construction have been reclassified, making necessary distinctions within residential and non-residential categories and reducing in most instances the amount of construction for which no authorization is necessary.

At the same time prospective builders are cautioned against making commitments for materials until permission to build actually has been granted. The fact that a builder has all necessary materials on hand and needs no priorities assistance will not, in itself, govern whether he should be permitted to use them in construction.

The new classes of construction established by the revision of L-41, with their former and present cost limits, follow:

Type of Construction	Former Limit	Present Limit
Residential	$ 500	$ 200
Multiple Residential	500	1,000
Agricultural	1,000	1,000
Industrial	5,000	5,000
Certain Types of Commercial	5,000	200
Other Types of Commercial, including Highway, Subsurface and utilities Construction	5,000	1,000

Included among the types of commercial construction reduced from $5,000 to $200 are buildings designed for use as clubs, lodges, associations, fraternity or sorority houses, auditoriums or assembly halls.

Also included are buildings designed for occupancy by not more than five establishments selling or dispensing goods, merchandise, food or drink, or providing services. In the latter group are small stores, restaurants, soda fountains, bars, and tailor, barber and cobbler shops. Large quantities of materials have been going into their construction under the provisions of the original order allowing up to $5,000 to be spent during any continuous twelve-month period.

Multiple residential construction includes buildings designed to provide living space for more than five families or divided into more than five suites. Industrial construction includes buildings designed for use in the manufacture, processing or assembling of goods or materials.

In every instance where estimated costs are under the established limits, the owner, before he may begin construction, must be able to acquire enough material to complete the project without priorities assistance. Furthermore the project must not require the use of any material, on the site or off the site, to supply electricity, gas, water, steam, telephone or sewage disposal service.

It was explained in the revised order that repair work, on which there is no limit, does not include reconstruction or restoration of construction damaged or destroyed by fire, flood, tornado, earthquake, act of God or the public enemy.

RALPH ADAMS CRAM, ARCHITECT

Ralph Adams Cram, 79, Fellow of the American Institute of Architects, died in a Boston Hospital September 22, after an illness of two weeks.

Mr. Cram was born at Hampton Falls, N. H., December 16, 1863. An authority on Gothic architecture, he was noted for buildings he designed for Princeton University and the United States Military Academy at West Point. He became world famous for his churches throughout the Nation, including New York's great Cathedral of St. John the Divine. He participated in the evacuation of the ruins of England's medieval Glastonbury Abbey.

He began his architectural practice in 1889, was registered in Michigan in 1919, and an active member of the Michigan Society of Architects. He had maintained offices in Boston and New York, as Cram, Goodhue and Ferguson; Cram and Ferguson and as Ralph Adams Cram. His fine churches were legion and he was author of a score of books, mostly on church architecture.

Ralph Adams Cram was supervising architect for Princeton University, 1907 to 1920; consulting architect for Bryn Mawr, Mt. Holyoke and Wellsley colleges.

STEEL BRIDGE COMPETITION

The American Institute of Steel Construction will sponsor another bridge design competition, open to bona fide registered students of structural engineering and architecture in recognized technical schools of the United States and possessions, and offers three cash prizes of $200, $100 and $50 respectively, for the designs placed first, second and third. Certificates, signed by the Jury of Award and Officers of the Institute, will be awarded to the prize winners and to those whose designs are given honorable mention. The premiated designs will become the property of the Institute.

A jury of nationally-known engineers and architects will judge the competition on February 17, 1943. Drawings must be received at the Executive Offices of the American Institute of Steel Construction, 101 Park Avenue, New York City, not later than February 8, 1943.

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U. S. STEEL'S FINE SHOWING

The stirring patriotic appeal of a steel mill worker, likening the American flag to "a flame springing up to consume injustice and wither the hopes of wrong," is a feature of the September "Victory" edition of U. S. Steel News. Fred Markus, a roller helper, accepting a Treasury minute man flag awarded to the Wood Works of Carnegie-Illinois Steel Corporation, U. S. Steel subsidiary at McKeesport, Pa., declared: "Our country's flag is not a mere piece of silk or wool; it is a living thing pulsing with the throbbing ardors of humanity, glowing with fervor of immortal hopes. It is an altar fragrant with sacrifice. It is a garden, wherefrom a nation grew, watered by the pure blood of heroes. It is a battlefield whereon it strikes its blow for the cause of freedom. If ever our flag needed loyal men and women, it is today. For such a flag true men and women will gladly die; for such a flag true men and women will always nobly live."

The employee magazine, supporting U. S. Steel's current drive for 100% participation by employees and subscriptions of not less than 10% of the gross pay roll for the purchase of war bonds, points out that if 10% of U. S. Steel's $700,000,000 annual pay roll were to be subscribed to the purchase of war bonds, the government would be able to buy one aircraft carrier, or 11 submarines, or 1400 pursuit planes, or 1750 light tanks, or 823,529 Garand rifles, or 280 four-engine bombers, or 466,666 parachutes, or 358 mosquito boats, or 3500 anti-aircraft guns, or 77,777 jeeps.

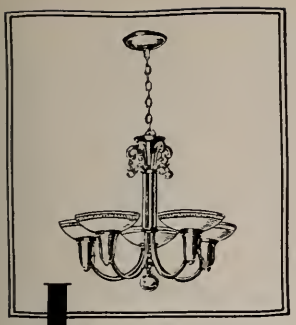
AMERICA'S MOST IMPORTANT MAGAZINE

Recently Carsen Associates of New York (publication research) invited the editors of America's leading trade papers, including Architect and Engineer, to tell what in their opinion is the most important magazine published in America today. Here is the result of the nation-wide research:

Magazine	% of Mentions
1. Time	26.8%
2. Reader's Digest	20.5
3. Satevepost	10.9
4. Life	7.1
5. Business Week	3.3
6. Newsweek	3.0
7. U. S. News	2.8
8. Fortune	2.3

K. E. PARKER COMPANY BUSY

Besides war work under construction at Mare Island and in Alameda, and a $500,000 water and sewage plant in San Joaquin County, the K. E. Parker Company of San Francisco has recently completed the new women's dormitory at the University of California, Berkeley, W. W. Wurster, architect; the University Administration Building, Berkeley, Arthur Brown, Jr., architect, and the Campbell low rent housing project in Oakland, the latter one of the projects illustrated in this issue of Architect and Engineer.



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WAR HOUSING

It is now expected that the $600 millions addition for government built housing for war workers will be available within a month. The President has signed the bill of authorization. These funds will supplement the more than a billion dollars already made available.

During the first half of 1942, government built housing for war workers amounted to $235 millions. During the same period, however, the volume of private residential building for war workers totalled $950 millions. This was equal to the 1939 volume of private residential building and compares with a peak of $1,200 millions for the first half of 1941. Obviously, the major part of the war housing program is being carried on by private builders. They must be relied upon to do a large part of the job that remains to be done, although as the government resorts more to temporary types of building for war workers the proportion of government building will increase.

BRICK TO REPLACE LUMBER

Producers of brick and other clay products are urged by the War Production Board to gauge production to meet an anticipated increased demand for these materials for use in the place of lumber in both temporary and permanent structures.

Ben Alexander, Lumber Co-Ordinator for WPB, called upon all manufacturers of brick, tile, and gypsum board, and on the membership of unions within the industry to aid in averting "a serious temporary shortage of lumber."

"Because of Lend-Lease requirements, and heavy construction programs of the Army, Navy and National Housing Agency," Alexander said, "it is estimated that the available supply of lumber will fall 6,000,000,000 board feet short of meeting this year's estimated 38,000,000,000 board feet requirements."

It is believed that at least 2,000,000,000 board feet of lumber could be saved by increased utilization of brick and tile, and an additional 100,000,000 to 150,000,000 feet saved by the use of gypsum board. Adequate brick, tile, and gypsum board for such

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uses can be produced by expanding the present output of the industry, which is now working at only 30 per cent of capacity. Annual capacity production of the brick and tile industry is estimated at the equivalent of approximately 13,000,000,000 bricks.

IDEAL BLACKOUT FACTORY

George H. A. Parkman, Westinghouse construction expert, has written a recipe for the ideal war factory—a blockout, bomb-resistant, windowless building from which vital military machines and armaments would flow 24 hours a day, uninterrupted by air raids or sabotage.

Drawing on ingenious American technical achievements of the past decade, Mr. Parkman advocates use of artificial daylight and precisely regulated temperature and humidity inside the arch-roofed super-factory to raise to a maximum the efficiency of men and machines.

A modern "failure-proof" system of factory power supply designed to localize damage from bombing, sabotage and other causes, would assure an unbroken flow of electricity to lathes, drills, welding sets and other equipment used to shape machines of war.

Two recent inventions would supply the cleanest air modern science can produce, protecting the health of workmen and guarding delicate machine parts against scratching. One of these, an electric air cleaner called the Precipitron, would bar the entrance of air-borne dirt, dust and smoke. The other, the Sterilamp, would stand guard in air ducts, killing bacteria with its invisible ultra-violet rays.

"Although this blackout super-factory would be adequate for the manufacture of almost any type of war equipment, its advantages are so great they would carry over into peacetime factory construction, inaugurating a new era in improved industrial working conditions," says Mr. Parkman.

"Many of these engineering advances have already been incorporated in factories constructed since the war began, but as far as I know, no

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factory has yet been built to take full advantage of all these recent developments," he added. "Increased comfort of workmen and protection of health in such a factory would improve morale, and speed production by reducing lost time due to illness.

"The building would be built of reinforced concrete, with an arched 'egg-shell' type roof, to save time and steel and to provide a structure that would suffer least from bombing, sabotage and fire.

"Although parts of the arched roof might be no thicker than three or four inches, the structure would not lack strength, because it would have the same general shape as an egg shell.

"This concrete construction costs about the same as steel frame construction, but requires only about forty per cent as much steel, a vital war material. Explosions from bombing or sabotage would cause only local damage, easily repaired.

"To maintain an uninterrupted flow of power to the machines of the blackout war factory, use of a new 'failure-proof' factory power network is recommended. This power system, which has been installed by the Westinghouse in numerous defense plants in the United States in the past year, has many supply lines running throughout a factory in a loop or a criss-cross pattern. It is known as an alternating current, secondary - network system.

"Damage to one section of the factory will not interrupt the flow of electricity to other parts. Also, this type of electric supply system is easier to repair and enlarge for factory expansions, because a small section of the system can be switched off while the remainder continues to supply power to machines.

"In a windowless and hence permanently blacked-out plant, lighting will be important because no daylight will enter and all work, 24 hours a day, must be done under artificial light.

"Fluorescent lamps are favorites for such factory lighting because they produce more than twice as much light as incandescent lamps from the same amount of electricity. Also, they give off less heat, and can produce light of a color that nearly duplicates daylight. Proper use of fluorescent

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lighting can increase production, because people can work better and feel more like working if given sufficient light.

"During the last war, it was general practice to supply between eight and ten foot-candles of light for factory work. Today, we realize that much more light is needed. A machine shop should have at least 50 foot-candles of light; assembly plants for automobiles, tanks and airplanes require about 100, and such extra-fine work as grinding of machine parts should be done under 200 foot-candles.

"Air conditioning is essential in a windowless plant to provide fresh air for workers to breathe, remove factory fumes and regulate temperature and humidity," Mr. Parkman said, adding:

"Proper temperature control, through air conditioning, permits employees to work faster in comfort. To eliminate stale air and prevent a feeling of laziness and loss of appetite, it is necessary to supply new outdoor air at the rate of 15 to 30 cubic feet a minute for each occupant of the factory.

"In summer, air conditioning must be stepped up to remove heat from the inside air. Otherwise, the interior of a windowless factory would reach an unbearable temperature. In an average factory manufacturing shells or tanks, an air conditioning system should supply each occupant with refrigeration equivalent to the melting of about a ton of ice every day, assuming that about 125 square feet of floor space is allowed for each worker.

"Experiments in blackout plants built this year have demonstrated that the best way to air condition such a factory is by a number of small cooling units located in various sections of the building. Damage to one unit would not affect the operation of all others."

PRIORITIES VIOLATION

Ignorance will not be accepted as an excuse for priorities violations. WPB advises all business men in doubt as to what regulations affect them to visit local WPB offices and discuss the question with a priorities department man.

Officials say that many cases brought before regional officers disclose that ignorance is the chief cause of violations. The compliance division is attempting to explain priorities orders to entire industries so as to keep unintentional violations at a minimum.

WANTED—30,000 TYPEWRITERS

The staccato beat of typewriter keys—thousands of them to join the shrill chatter of radio, machine guns and riveting machines—in America's war against the Axis—

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With a direct plea from the Army, Navy and Maritime Commission in Washington, D. C., plus an urgent message from Donald M. Nelson, WPB Chairman, the Regional WPB has launched a drive for all available typewriters owned by business firms, trade associations, schools and individuals in the San Francisco bay area.

Machine owners are urged to call their manufacturer's representative or registered dealers, authorized to handle all transfers of equipment to the armed services, who will purchase machines at 1941 trade-in prices. Typewriters should be of 1935 or later standard makes. Portables are not wanted.

All manufacture of typewriters, with few exceptions, has been discontinued, while the plants are now producing machine-guns and other war equipment. Swift expansion of Uncle Sam's fighting forces around the world, matched by depletion of typewriter reserve stocks, calls for this new War Production Board drive.

Inquiries may be addressed to the regional War Production Board, 1355 Market Street, San Francisco, or the nearest WPB state or district office.

NORMAN W. SEXTON, ARCHITECT

Norman W. Sexton, San Francisco architect, died October 15 at his hunting lodge on Grizzly Island near Fairfield, presumably from a heart attack. Mr. Sexton had gone to the lodge to prepare for a duck hunt.

The San Francisco architect, who was 64, had practiced his profession in the Bay area for 40 years.

He was a member of the American Institute of Architects and the State Association of California Architects.

Mr. Sexton had designed many school houses and other civic buildings in this area. Recently, he was the architect for several fire houses in Vallejo.

WHAT TO READ

MILL AND MANSION, a study of architecture and society in Lowell, Massachusetts, 1820-1865, by John Coolidge; Columbia University Press. Price $3.75.

A careful, scholarly study of the architecture of a New England cotton-mill town from 1820 to 1865. It illustrates the extent to which buildings depend upon contemporary social conditions. There is an inter-relationship between architectural evolution and social evolution which deserves much more study than it has ever received.

Lowell, Massachusetts, during the period studied, represented one of America's most comprehensive attempts at city planning. It was an extraordinary experiment in low-cost housing. It contained fine industrial buildings, the mansions of parvenu mill owners, as well as a good New England arrangement of churches, schools, public buildings, slums and middle-class homes. Historians and sociologists should investigate this book because it contains a new and useful approach to Puritanism.

PRACTICAL ACOUSTICS AND PLANNING AGAINST NOISE, by Hope Bagenal; Chemical Publishing Co., 234 King Street, Brooklyn, N. Y. Price $2.50.

This book sums up the major facts of building acoustics as we find them today, and is intended for the use of students and also for builders and architects with practical problems before them. Scientific material has been selected rather than collected. Throughout the book the needs of post-war planning have been kept in mind.

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T F An I. E. S. study lamp gives me between 30 and 35 footcandles of light on the reading surface of my desk.

T F Reading a brightly lighted page when the rest of the room is dark causes eyestrain and fatigue.

T F I need three times as much light to read a newspaper as I need to read a well-printed book.

T F A footcandle of light from a flame-tint or other colored bulb costs me many times as much as from an inside frosted bulb. The color holds back most of the light and lets only rays of its own color through. An inside frosted bulb lets virtually all light through.

T F "Sifting" light through a diffused bowl makes it soft and soothing to the eyes and eliminates shadows and glare.

T F Paint, dye, and other pigments are NOT color—they merely reflect selected light rays and I see these rays as color. Color exists only in light, and the more clear light I have, the better all colors appear.

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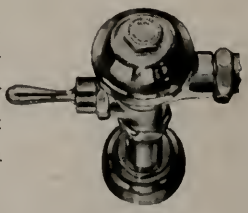

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NOVEMBER, 1942

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Medical School Center, Portland, Oregon
California's Opportunities After the War
The Young Architect Cries for Leadership

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NEXT MONTH

William W. Wurster's girls' dormitory at the University of California, Berkeley, has no prototype in the West, if indeed there is anything like it in this country. Completed less than two months, the building has created more stir on the University campus than any structure erected there in recent years. Ninety girls are housed in this Stern Hall, which cost more than $285,000. Sally Carrighar, new member of the ARCHITECT AND ENGINEER staff, is writing a "woman's impressions of a woman's dormitory." Mr. Wurster says he always welcomes constructive criticism. Sally will see that he gets it in this instance.

The author has taken some splendid photos of the building, outside and in, which will add interest to the article.

Another December feature will be the story of how the British have organized their study of post-war building. Committees of the American Standards Association are working on comparable problems of our own post-war building, and a tentative draft of the probable setup has been drawn.

Architect's drawing of PERALTA VILLA Project, Oakland, California. Board of Architects: Carl I. Warnecke, Hugh C. White, John J. Donovan, Henry A. Minton and Frederick H. Reimers.

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In many Federal Housing Projects throughout the West, HAWS Drinking Fountains are installed at the projects' playgrounds. These units, on pedestals, provide sanitary drinking water, because the faucet head is raised, shielded and angle stream. Self-closing valves eliminate excess waste of water. Installation is quick and simple. **Insist on HAWS!**

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RUNNING FIRE — By MARK DANIELS, A. I. A.

• *A "RAW" DEAL*

When the government failed to put a ceiling on farm products because they fell in the same category as iron ore, copper ore, rock and sand, etc., which were products essential to prosecution of the war, they forgot that we sometimes eat our carrots raw, although we do cook the spinach that comes with the sand. The poor, dear, down-trodden farmer **took advantage** of this with a speed that belies his reputation for slow and plodding progress, for it took him about twenty-four hours to hike his prices to the limit.

When a person has a bullet proof vest it is folly to go gunning for him, which makes it doubly hard to pull punches when talking about the poor farmer as we shell out 10c an ear for corn and 5c each for unripe tomatoes. Of course, his alibi is the ever ready cry of 'farm labor costs,' but another hike in his raw farm products could pay off the war debt and leave enough to mow the White House lawn once a week.

For years we have heard the cry of poverty from the farmer until it seems that no price, subsidy or flat gift for not farming their land can quiet that endemic seasonal howl. With grapefruit so long at 25c a dozen and now at 10c each we thought that we might have quiet, but the farmer's son who once was proud to drive to Cow College in a Ford, is now demanding a limousine and soon will be driven to Agricultural College by a chauffeur.

We all expected a rise in almost everything. The government predicted it. But we were hardly prepared for a 500% rise over night. The worst of it is that these poor farmers have got the fish, particularly the shell fish, doing it. The cost of sea water must have gone up or perhaps the submarines keep them awake nights. Anyhow, I don't see that the fishermen are getting much of a raise but oysters have about doubled.

Well, that's what a bloc can do for you—a good, big rich bloc. My, I pity those poor architects!

• *REGIMENTATION*

"Modern immaculate order precludes picturesque disorder." I don't know who said that, but I think it was Dr. Herbert Evans of the biological laboratories at Berkeley. He always puts things patly. Anyhow, show me a room where everything, down to the smallest ash tray, is in its fixed place and I'll show you the home of a person who doesn't need much military training. The monotony of strict order is the result of regimentation and the loss of freedom is brought about by so-called modernism.

In many plans of "modern" living rooms, particularly the smaller ones, with their built-in fixtures, their especially designed modern furniture set just so in the room, the ensemble often presents an attractive picture. But move this chair a couple of feet from that table, stand a few books, too large for the shelves, in the corner, and immediately you have a feeling of anachronism.

I am not quarreling with modern architecture, but when architecture or any other art takes on a style that cramps individual freedom, it is heading for regimentation. Modern architecture, per se, has always been an advance from the architecture of yesterday so long as it remained ARCHITECTURE. It is only when a few "muddle"-aged architects begin to sacrifice individuality and freedom to design, that we get in stride with Hitler.

• *THE LITTLE MAN*

Absent mindedly the Little Man shook his cigar ashes into his empty glass and tossed off my old fashion. "The fish eats the worm," he said as he speared an anchovie from his neighbor's plate of hors d-oeuvres, "the man eats the fish and the worm eats the man. That is one form of the cycle of carbon in nature. We Americans are going nature one better, for we are making it in three without carbon. The women are replacing the young men, the young men are replacing the old, and the old men are replacing the women. That is a good cycle, too, and will work if the army will quit letting young soldiers do the women's work." The Little Man washed down three of Fred Solari's big olives with my fresh old fashion as he went out.

• *BIRD DIARY ITEM*

This morning I sang my opus 26,379. The cat must have liked it for he watched while I tried to repeat it.

• *RADIO*

The growing discussion of radio programs has started one program that cannot be tuned out. That one is the argument between the print broadcasters and the radio broadcasters. The publishers start with one strike on them, for there is little doubt that the radio people are taking a lot of advertising from the press to the air, which gives anything the editors can say a bit of the tang of sour grapes. Never-the-less, the magazines have got the radio people trying to answer them in print and the broadcasters have hired "Variety's" Editor Landry to write for them a small brochure entitled, "Magazines and Radio Criticism," which puts Mr. Landry more or less in the position of carrying water on both shoulders. Well, most editors have to do that anyhow.

Mr. Landry's "bete noir" seems to be Mr. Nettels of Wisconsin whom, he alleges, "seeks to establish advertising on the air as a social evil, per se." Now, Mr. Nettels is a big man even for Wisconsin and, if his contention really is what Mr. Landry claims, I think he is covering a territory greater than his reputation, which is some territory. There are many who criticize the radio in and out of print, and many others who would if they dared, but it is doubtful if any of them really want to see radio advertising taken off the air at the cost of losing all programs or having a bureaucratic government take over radio entirely. Most of the criticism is based upon a frantic effort to eliminate the unnecessary superlatives, the exaggerations, the "blinding-white-teeth-from-a-single-applications" dentifrice ad, the tommy rot, and, the time-worn claim that no matter how rotten it is, "it's what the public wants."

Several times in the past this column has stood for POINTING UP. We should no more give the people what they want, every time they want anything, than we should do the same for ourselves. And it is infinitely worse for a broadcaster to be allowed to give the public what HE THINKS it wants. "LIFT UP YOUR HEADS, OH YE GATES."

NEWS AND COMMENT ON ART

"DO YOU PANT TO PAINT?" AN EXHIBITION AT DE YOUNG'S

Sponsored by the Society for the Alleviation of Frustration Among the People, a unique show opened at the de Young Museum, November 1, being an attempt to give would-be artists, "Sunday painters" or simply those who "have to get something off their chest" a chance to exhibit the results of their efforts. The exhibit presents an opportunity for the unschooled artist to see and compare his work with that of other amateurs and to spur him to continue—perhaps to study painting seriously—and to encourage others, who so far may have been too "self-conscious," to use the various art mediums as a means of self-expression.

"GIRL READING," water color by Norma Johnson, de Young Museum, San Francisco

There are no restrictions as to type of composition, or materials used. No more than three examples from each contributor have been accepted —the mediums ranging from oils, watercolors and various graphic arts to sculpture. The only stipulation made was that each artist be strictly a "non-professional." At the close of the exhibit, prizes will be awarded to the works showing the greatest originality and promise of future talent.

ARCHITECTURE TODAY AND TOMORROW

Jan Reiner will discuss "Architecture Today and Tomorrow" at the San Francisco Museum of Art on Sunday afternoon, November 29, at 3:00 o'clock. Taking present and post-war planning as his main theme, Reiner will take up the question of prefabrication, will illustrate the uses to which steel, concrete, glass, plywood, and plastics are being put. Before coming to this country five years ago, Reiner had already gained recognition as an architect in Europe. Formerly he was a student of Le Corbusier in Paris, Ove Bang in Oslo, and, more recently, of Gropius at Harvard. He has taught in Chicago at the New Bauhaus, and lately at Mills College. In San Francisco he has been attached to the office of W. W. Wurster. Reiner's Sunday lecture will be illustrated.

WAR THEMES BY WOMEN ARTISTS AT 17TH ANNUAL EXHIBITION

Memorable will be the 17th Annual Exhibition of the San Francisco Society of Women Artists which opened at the San Francisco Museum of Art November 13, for it stands out as the first annual exclusively concerned with war. Meeting the challenge of art's place in war time, the Women Artists base this show on an active plan of three parts: Art Lives, Art Reports, Art Assists. Charts, posters, photographs, paintings, sculpture, and a wide range of crafts are keyed to this program. The exhibition will be on view through December 13.

CHICAGO ARTISTS EXHIBIT SCULPTURE AT S. F. MUSEUM OF ART

Two Chicago artists, Alexander Corazzo and Gretchen Schoeninger, will show experimental types of sculpture at the San Francisco Museum of Art from November 17 through December 20. Their sculpture, more exactly termed constructions and mobiles, makes novel use of the effects of various stuffs like wood, tin, glass and string in colored light, and by means of actual movement in space. All attention is concentrated on these special types of design, without reliance on the effects of familiar subject matter. Corazzo is well known here, being a frequent exhibitor in Annuals of the San Francisco Art Association in which a picture of his won a purchase prize last year.

S. F. ART ASSOCIATION'S ANNUAL EXHIBIT OF PAINTINGS

For sixty-two years now, critics have clustered like hawks about the San Francisco Art Association Annual Exhibition of Paintings and Sculpture. This year they settled on rationed fare, because the effects of war had restricted contributions to one

"FLIGHT INTO EGYPT," by Jean Charlot

The above painting is one of a number of oils which, with sketches and detail drawings, form a representative group in the exhibition of Charlot's work now showing at de Young's.

entry per artist. Being smaller than usual and perhaps more selective, there is no doubt that the show was easier to negotiate. More than one critic expressed relief on that score, and then went on to say it was the liveliest Annual in years. Perhaps that is what they always say but, if so, what could be a better testament of the up-to-date character of an institution now aged three score years and two?

UNIVERSITY PROFESSOR PREDICTS FLOURISHING POST-WAR ART

A "golden age" of American art will flourish in the post-war period, Professor Emerson H. Swift of the Columbia University of Fine Arts Department predicted at the University's summer session.

"History shows that all the great art periods developed immediately after important war," Dr. Swift said. "This factor, as well as the encouragement of native-trained artists and the great improvement in the public's artistic taste within the past twenty-five years, will be responsible for this new era of art in the United States.

"Until recently America lacked the background to produce a great national art. Official govern-

"GIRL WITH DOG," by Felix Ruvolo
Anne Bremer Memorial Prize
62nd Annual Exhibition of the San Francisco Art Association

ment sanction and public backing, always necessary to the growth of a great artistic period, was lacking. Art was a luxury reserved for the well-to-do and mainly the product of European trained men and women.

"Since the war has shifted the center of culture from Europe to America and recent Federal projects have helped to popularize art and bring it to the public's attention, we can now look forward to the emergence of an important art period of our civilization in this country.

"Modern or so-called abstract art, due to the dominance of the scientific point of view, is not as startling an innovation as most people think. It is actually comparable to the great Byzantine art which flourished after the barbarian invasion and the overthrow of Rome in the fifth century A. D. The art produced then was also abstract and totally different from the classical periods of the Greeks and Romans."

MASTER PLAN FOR SAN FRANCISCO APPROVED BY ART COMMISSION

The following principles were embraced in a communication presented by Commissioner Emerson Knight, Landscape Architect, at a regular meeting of the San Francisco Art Commission, October 7, 1942:

"To our Honorable President, Ottorino Ronchi, our Secretary, Joseph H. Dyer, Jr., and all Fellow Members of the Art Commission:

We represent the welfare of Art in San Francisco. This trust we have held for over ten years. In behalf of music, we have aimed to administer City tax funds wisely, toward securing the best music for all. We have exercised architectural design influence over public buildings. We have passed upon works of painting and sculpture for public use. In other arts we have not functioned fully. While our charter limits our initiative powers, we still are free to state our principles as we encourage sound art. We foster, too, the Art of Living, which implies the noblest expression of body, mind, heart and spirit. Environment affects us vitally. San Francisco is endowed with a rare geographic and scenic setting. Its original charm has been marred by man. Streets have been built contrary to the harmony and rhythm of nature. Vacant areas have been neglected.

The restoration period following our present war will surely include development of new housing on a vast scale. Plans for such housing should be soundly related to our city plan and prepared in advance. New building schemes should consider not alone practical needs, but also those insuring health. Beauty in design, form and color should be appreciated, and emphasized. We can strengthen the integrity of our citizens when each family is assured separate living quarters under one roof, with ample space environment. There must be air, light and sun; also trees, shrubs, grass and flowers. Thus, in revising our building and zoning ordinances, we urge and insist upon minimum city lots large enough to meet these requirements, as for example, a minimum lot of 50x100 feet. We would discourage increase in apartment houses.

We resolve further to benefit San Francisco in the following ways:

In the creation of a Master Plan, wide in scope to embrace all inherent problems, including streets and arteries reasonable in grade, consistent in alignment and flow, with adequate width. Curved ways along contours to be used wherever justified. The Master Plan should express our needs far into the future and still be flexible. All sound elements of the Daniel H. Burnham Plan of 1905 deserve realization with sympathetic interpretation.

We would provide ample breathing spaces in major and minor parks, well situated and wisely distributed; also generous play areas with sufficient facilities.

We foster attractive appearance for every aspect of our city; through noble conception in architecture and superior materials; in universal tree planting for streets and plazas, in fitting use and planting for vacant areas.

We encourage each citizen to maintain his home with order and pride; with free use of color, flowering vines, window boxes and sidewalk planting.

We resolve to keep streets and vacant areas clean. Refuse boxes of appropriate design will aid in suggesting efficient results.

We are stimulated by flower vendors' stands at strategic intersections. Bright vistas toward focal points, lend gaiety.

We urge the creation of gardens in all streets too steep for motor traffic.

We favor design control over all minor structures such as news stands or Kiosks, so that they can function as neat colorful accents.

We aim for the preservation of all our historic and traditional landmarks, also in recording their significance upon fitting and enduring markers.

As inherent in city plans, we aim to suppress and eliminate noise and noxious odors. Signs should be used only to direct and inform; we urge that huge ones insistent upon blatant advertising, be abolished.

We go on record now as endorsing these principles in spirit and we feel moved to fight for their realization with our best powers."

Upon motion duly made and seconded, this report met with the unanimous approval of the Art Commission, and the secretary was instructed to spread the resolution on the official minutes of the meeting.

LETTERS TO THE EDITOR

THINKS OAKLAND HOUSING PROJECTS HAVE BEEN WELL HANDLED

Editor, Architect and Engineer:

Receiving the October Architect and Engineer seemed like old times. Excellent article on the Oakland Housing Project, which looks well handled and of better design than many of the eastern ones I have seen.

My son, Warren, has gone into the Air Corps of the Army (2nd Lieut.) and has been in Australia since June.

Please remember me to all the old crowd.

Cordially,
Chas. H. Cheney, City Planner (retired)

Palos Verdes Estates,
October 22-'42.

NO EVACUATION OF NON-WAR WORKERS IN L. A. HOUSING PROJECTS

Editor, Architect and Engineer:

May I correct the misinformation regarding our tenant selection policy (Architect and Engineer, September, 1942).

In no instance have non-war workers occupying houses built by the City Housing Authority of Los Angeles been obliged to move out of their homes to make way for those engaged in essential war work. The period of preference granted war workers insures them housing accommodations before developments are thrown open to non-war workers. There is no evidence that the areas in which non-war workers are now being housed are essential to meet the needs of war workers. Therefore, no evacuation has been necessary, nor is it contemplated.

Fay M. Jackson

Los Angeles, October 28, '42.

COMPETITION FOR MURAL DECORATION OF THE

LIBRARY OF THE MUSEUM OF FINE ARTS

SPRINGFIELD, MASSACHUSETTS, U. S. A.

Open to All Artists Resident in Canada, Mexico and the United States.

The Museum of Fine Arts, Springfield, Massachusetts, invites competition for one mural in an oil medium for the Library of the Museum which is situated on the southwest end of the Museum building.

AMOUNT OF AWARD

The sum of $4,500 is to be paid for this work which amount must cover the complete cost of execution and installation of the decorations.

COMPETITION JURY

The competition designs will be judged in Springfield, Massachusetts, by the Museum's Trustee Committee on the advice of a jury composed of the following:

Mr. Edward Rowan, Assistant Chief, Federal Works Agency,
Public Buildings Administration, Section of Fine Arts
Miss Margit Varga, Artist and Writer
Mr. Henry Varnum Poor, Artist
Mr. William Gropper, Artist
Mr. Forbes Watson, Art Critic

COMPETITION REQUIREMENTS

Designs must be submitted with carrying charges prepaid or they may be delivered in person to the office of the Museum of Fine Arts, 49 Chestnut Street, Springfield, Massachusetts, U. S. A. The closing date of the competition is May 24, 1943. All designs must be postmarked or in the hands of a carrier not later than that date.

The designs must not be signed. Each design submitted must be accompanied by a plain sealed envelope enclosing a 3"x5" card bearing the artist's name and address, typewritten or printed clearly. These envelopes will be numbered when received with the same numbers as the designs they accompany and will remain unopened until after selection of the design chosen for award.

All participants will be advised after the award has been made and envelopes are opened. All designs will be returned to participants C.O.D., unless the Museum of Fine Arts is otherwise advised in writing by the artists.

Should the winning design prove to be by an individual serving in the Armed Forces, arrangements will be made for the execution of the mural after his release from such duties.

All inquiries for further information should be addressed to: **Frederick B. Robinson, Director, Museum of Fine Arts, Springfield, Massachusetts.**

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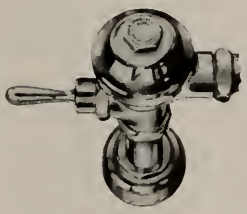
Now, thanks to Sloan engineers, we are able to make this promise:—*after the war Sloan Flush Valves, with all their inherent advantages, will be available to even the modest homes.*

Sloan-equipped homes are the ultimate in convenience, health and economy. Start planning now for Sloan-equipped residences. Remember: there are more Sloan Flush Valves sold than all other makes combined.



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DETAIL OF FACADE, U. C. ADMINISTRATION BUILDING, BERKELEY
ARTHUR BROWN, JR., ARCHITECT

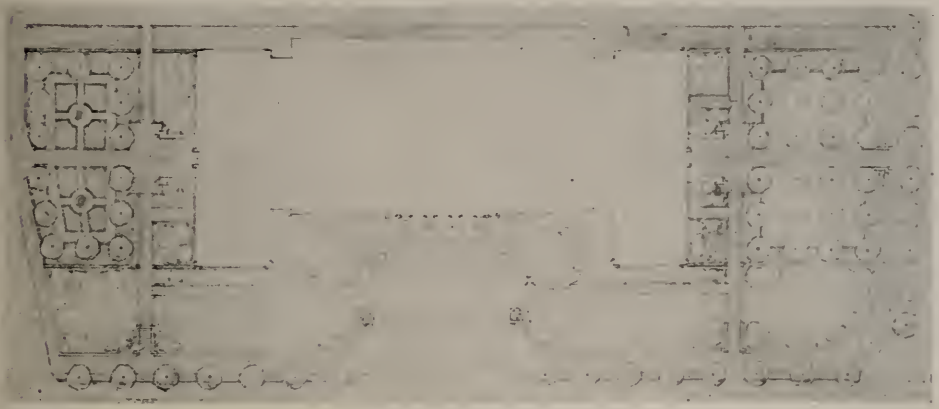
Carrighar, Photo

U. C. ADMINISTRATION BUILDING, BERKELEY

By MARK DANIELS, A.I.A.

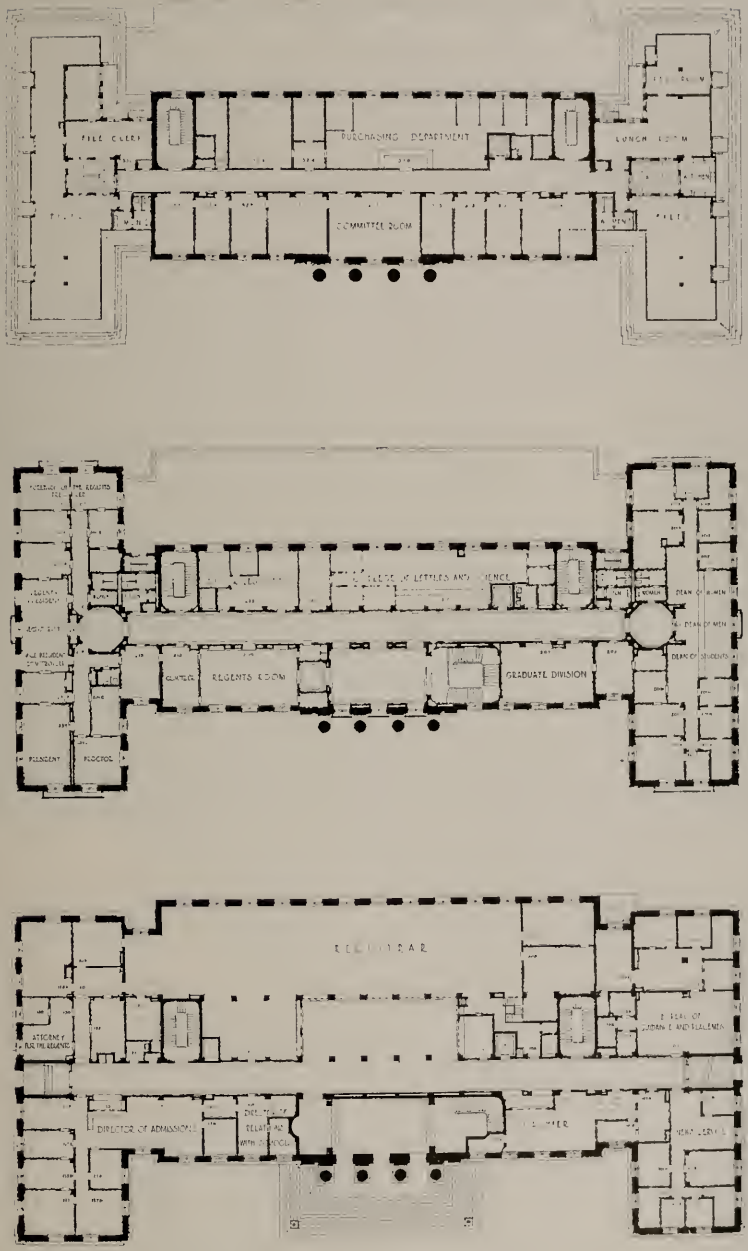
At the very close of the last century the prizes were awarded for the "Phoebe A. Hearst Architectural Plan for the University of California." Three years before that Mrs. Hearst had made it possible to enlist the services of some of the greatest architects of the world in this contest and in December of 1899 Mr. Benard, of France, was awarded the first prize. Forty-three years later we are still working and building to a plan for the University of California, but whether Mr. Benard could recognize it or not is doubtful, which is no reflection on either Mr. Benard or the University, for such is the history of plans. Man proposes - - - - .

The scheme of those plans grows dimmer as the years pass. They have been altered and revised, re-vamped and re-interpreted by Bernard Maybeck, John Galen Howard, George W. Kelham and now they are in charge of Arthur Brown, Jr., who, of all the architects



PLOT PLAN, TELEGRAPH AVENUE FRONT, U. C. ADMINISTRATION BUILDING

Upper—BARROWS STREET FRONT. Lower—BANCROFT AVENUE



PLANS—FIRST, SECOND AND THIRD FLOORS

STAIRWAY FROM ENTRANCE LOBBY. Carrighar, Staff Photographer

who have worked on what once was the Benard plans, is probably more "en raport" with them than any other. Some of these changes were in style, some in plan, some in organization. Some were at the request of, or in conference with, the Board of Regents and some were just the result of time, as happens with all man-made plans. Existing conditions for this development of the general plan were carefully reviewed and the Administration Building placed accordingly.

Personally, I like the New Administration Building. Every time I see it I like it more, and I expect to like it still more the next time I see it. It seems to have the elusive quality of "growing on you." In a way it is like first acquaintance with a Sequoia Gigantea, except as to size. When you first see a Sequoia you say, "That's a big tree, all right." The next day you say, "Boy, what a big tree that is." Finally you say, "Lord Almighty, what a giant that tree is!" I don't mean that you will be impressed by the size of Mr. Brown's building. Far from it. It is a comparatively small building with a three story facade. But it takes its place in a simple, dignified way, with no flamboyant "come hither" about it. When you first see it you say, "That is a nice building, all right." You go back the next day for another look and you say, "What a nice, simple building that really is," and finally when it has "grown on you" you say, "Lord, that little building certainly is a beauty!"

Arthur Brown has always been an individualist—each of his buildings bears the stamp of his personality. In spite of classical training,

Upper—Corner of President's Room

Right — Registration facilities. Windows look into Registrar's Room

intellectual honesty dominates his work. An innate conviction of the beauty of symmetry and balance has caused the radicals to label him a "classicist"—an epithet which persists in spite of such structures attributed to his genius as the Temple E'Manuel and the Coit Tower. In residential work he instinctively works in traditional styles. He does not express himself in that phase of modern which ignores the orders, balanced mass, and established taste in fenestration. He would be foolish to try, even if he wanted to. Frankly, he does not want to.

In his U. C. Administration Building Mr. Brown has gone far along the road by simplification and the elimination of detail. The windows are plain openings with no sills or ornament of any kind. This meant that the fenestration was studied as mere openings balancing with the mass of the solids of the wall which they pierced. Sills or mouldings around the window would have made them count more and would have changed the entire scheme of balance.

To my taste the back of the building, or east facade as I prefer to call it, is the more pleasing. It has a one story break-back that gives depth while increasing the interest. It also offers more substance for the play of light and shadow. There is something about this side of the building that I seem to recall yet cannot place. Probably something I dreamed of, for, while some of Arthur Brown's admirers cannot execute work like his, we can dream about it.

Contrary to general opinion, architectural work for a university is not all peaches and cream. I have been told, and NOT by Mr. Brown, that satisfying a group of college professors is entirely outside the realm of architecture, whether it be designing a building for them or splitting an occasional infinitive. One might think that if there is one place where the Old Man of the Sea, "Dual Purpose," might get off the architect's back it is in college work. But not so—and especially not so in Mr. Brown's Administration Building. Here executive, administrative, economic and educational work had to be provided for under one roof. That's not a dual purpose that's a quadruple purpose building.

TELEGRAPH AVENUE FRONT, U. C. ADMINISTRATION BUILDING, FROM ROOF OF STORE BUILDING OPPOSITE

THE YOUNG ARCHITECT CRIES FOR LEADERSHIP

Edgar I. Williams, President of the New York Chapter, A. I. A., in a recent report to the Institute, presented some timely views on architectural education of which the following paragraphs are representative:

No generation of architects ever forgot they were builders. There were times not so long ago when architectural education became lopsided, stimulating the imaginative faculties and veering toward the conception of monumental forms and the continuation of a classic heredity almost to the complete exclusion of the fundamental needs of a builder's training. In those purple and gold times the lust of proud youth to seek his own architectural destiny was too often suppressed by olympian condescension but firm guidance in the good and tried old formulas. One had to be strong to survive the impact of such imponderables. But lest some of our smarties both young and old seek to pour ridicule upon the architecture of those times, let them stand on Fifth Avenue and 36th Street in New York and contemplate the old and the new buildings about them. The old are at least harmonious and elegant. In the new, one senses a vain effort to be clever. One senses that the death knell is ringing over this part of one of the finest streets in the world.

"What is wrong and what must we do?" asks the young man. "Give us leadership!" says he. He wants an answer. We can take him aside and whisper in his ear, "The day of the centre line is over. It produces static compositions. Mark you this: always strive for balance, never symmetry. There is the secret." This at least is clear. It abolishes the old credo once and for all. Time is saved for the student. It is the law.

We can tell the young man that all his work should have social consciousness. His conceptions should strive to integrate the technological aspects of our civilization and the human aspirations of our life today. This, of course, is not as clear as the preceding formula. Such statements lead to, in fact are, abstractions which, though they have widely recognized implications, have little meaning for those who strive for the realities of putting one stone upon another, or to be more modern, putting one lally column where it works twenty - four hours a day.

Some teachers who have espoused revolutionary attitudes and some practicing architects who have seen a new light are inclined to look upon other contemporaries as remaining in the status quo of their own youth. They fail to see that in a changing world others besides themselves change. In the normal movement of a people each individual sees a slightly different view. It is by looking back that one sees if forward progress has been made. In architecture the test of progress is in the uniformity of expression which develops in a given area, be it a whole country or a part thereof. The uniformity need not be in detail, but on broad lines.

What many of us think of as a new California architecture is an identifiable aspect of newer houses there that, with a certain uniformity, expresses the spirit of a buoyant people and their locality. It is a definite attribute, not an abstract "international" one.

Can this aim be taught? Perhaps—indirectly; not specifically.

Does the young man want to be taught a kind of architecture so that he may have a ready-made vocabulary of detail? It seems to me rather that he should be made aware of his responsibilities in this rapidly changing world. The best a school can do for a student is to indicate the way, provide an orderly means of study, give encouragement, stimulate an awareness of the life he lives, help him to use the tools of his profession, and guide him toward the search for a beauty in the world of today.

It is trite to say that the aim of education is to make people think, but it is nevertheless basic. There are subjects in which teaching strives to impart factual data. In other subjects training strives to develop qualities rather than to impart facts. The architect's training

should be of the latter sort. He must have factual training too, of course, but basically his training to conceive three-dimensional space, to acquire flexibility of mind as well as to use the tools of his profession, is paramount. School training can hardly do more than that.

There is need for improvement in our schools. How to find a better balance between broad basic aims and the equipment that fits a young man for an immediate job is always a real problem. It is especially so today when vast building problems of national scope are paraded before us. A flood of statistics, for example on housing, becomes so absorbing that the scale of the human family with its desires and affections is lost in the maze. Statisticians who have never had the responsibility for one job formulate standards. Men who have not faced the problems inherent in the democratic process of dealing with fellow men find formulas for other peoples' behavior, even to how they should apportion their incomes, for example. Town planning becomes a slide rule and statistical affair instead of an understanding that it is natural democratic growth based upon cooperative action of the citizens, the government, the bankers, the architects, the engineers, the poet of a community. Rules and patterns become abstractions. When such teaching is the case, the school needs improvement.

It is my contention that today many schools —not all—are turning out men who are better trained to practice their infinitely more complicated professions than heretofore. They are aware in attacking their problems that there is a North, East, South, and West, that there is sunlight, earth, wind, and rain. They know that buildings are complicated mechanisms of concrete, stone, steel, glass, wires, pipes, transformers, and many other items. I have seen young men with no apparent ability to think or draw, with no especial qualities of versatility at the start, develop in four years to the point where they could turn out very creditable architectural works.

Some have gone out obviously bemoaning the lack of having acquired an easy formula for success, but aware of the responsibilities they must assume. If they fail of courage it is woeful but it is good to know it soon—for there is no easy road to creative excellence except through energy, pride, and faith. In my opinion too many people have assumed that the architect, to fit into our world today, should be an engineer, a site planner, a furniture designer, a promoter, and a business man all in one—a sort of super jack-of-all-trades. That our woes at this very hour are real is, of course, true. In a war of survival the basic attributes of an architect's abilities have comparatively little use. Architecture suffers in time of war. Is it any wonder that the young architect faces the world with insecure feelings?

We must realize that we are but part of a cooperative world. This is especially true in our American way of life. The architect is but one of a group of statesman, engineer, economist, promoter, etc., who will plan what we hope will be a better world after World War II.

It is quite possible that our contribution toward a richer life in which architects must and will play a significant part may, for the moment, have to be in dreams only. In total war a nation girded for harsh action may have to by-pass all other functions of the architect except that part which only a few can contribute toward winning a victory of arms. Until that time comes, and it will not be of our choosing but will be the result of military decision, I see no reason why the schools should commit the sort of scholastic hara-kiri suggested by one member of our profession who proposed that all architectural schools voluntarily shut down. There is no reason why the young men and women now studying should not continue training for a better day except the possible dictates of a total war effort.

The young man wants leadership! I do not recall having heard that such as Christopher Wren, Louis Sullivan, Charles McKim, Paul Cret, Ragnar Osberg, nor any of the other really creative men asked for it. It is to be hoped that the leadership the young man of today will appreciate is the inculcation of an idea that the new world as well as its architecture is his responsibility, and that to find the spirit of his own people and to translate it into a living reality by means of his own inventive genius is his hard but stimulating task.

A TWENTY-FOUR YEAR BUILDING PROJECT

UNIVERSITY STATE TUBERCULOSIS HOSPITAL, PORTLAND, OREGON
Lawrence, Holford & Allyn, Architects

MEDICAL SCHOOL CENTER
PORTLAND, OREGON

Architectural style or quality, as distinguished from Historic Style, moves strangely and inevitably, fluctuating even in the lifetime of one designer. Society often rapidly changes its collective taste, which is bound to be reflected in the designer's work. The architect's own philosophy of design never sets if he is alert to trends, to ideals and to growth.

More than one designer, like Bertram Goodhue for example, has outgrown the

Upper picture—left to right—AUDITORIUM . . . WEEKS MEMORIAL MEDICAL LIBRARY . . . UNIVERSITY OF OREGON MEDICAL SCHOOL . . . CLINIC BUILDING AND CHILDREN'S HOSPITAL.

Lower picture—WEEKS MEMORIAL MEDICAL LIBRARY AND UNIVERSITY OF OREGON MEDICAL SCHOOL.

U. OF O. MEDICAL SCHOOL CENTER, PORTLAND, OREGON
Lawrence, Holford & Allyn, Architects

historic vocabulary and, answering some call within, has turned to the creative approach in conception and in detailing.

Therefore, a job that takes twenty-four years to do, should reveal an interesting story. It should show if the designer is ahead of the trends when he solves his first conception of his problem and if he has caught up with current trends as he completes the work. The evolution along the way might be taken as a demonstration to which a kind of laboratory test might be applied, to ascertain if unity and harmony have been secured while maintaining an up-to-date freshness in each new unit.

* * *

The University of Oregon Medical School Center at Portland, Oregon, was started in 1917, when the east wing of the Medical School was built. At that time a plot plan was made and the design of the Medical School itself laid down. The site was a very irregular one, on the heights back of Portland. From it is an unexcelled panoramic view of an extended horizon, five snow-capped mountains, two great rivers, and the city. On the construction of this first wing, Lawrence, Holford & Allyn had as associate architects, the firm of Whitehouse & Fouilhoux.

In 1921 the central wing of the Medical School was completed.

AIR PLANE VIEW OF JACKSON PARK, PORTLAND, OREGON, SHOWING PRESENT AND FUTURE DEVELOPMENT OF UNIVERSITY OF OREGON MEDICAL SCHOOL AND HOSPITALS

DOERNBECHER MEMORIAL HOSPITAL FOR CHILDREN. WEEKS MEMORIAL MEDICAL LIBRARY AND RESEARCH LABORATORY WING

WEEKS MEMORIAL MEDICAL LIBRARY (left) DELIVERY ROOM (center) LOBBY (upper) FACULTY READING ROOM

Auditorium, University of Oregon Medical School, Portland, Oregon

Victory Housing Project of 1,000 dwelling units, Portland, Oregon (see text)

In 1925 the Doernbecher Memorial Hospital for Children was designed and built. Being on a lower contour and removed sufficiently from the Medical School, a smaller scale was adopted, suitable for this and the large Clinic Building which was designed and built in 1930.

In 1940 the front portion of the west wing of the Medical School, the Weeks Memorial Medical Library and the Auditorium, were completed. The same year the University of Oregon State Tuberculosis Hospital was designed and built. Removed from the Medical School by a deep gulch, it is the first unit of a large General Hospital to be erected in the future. Because of its location, the designer had more freedom in handling details and masses.

All the buildings of the Medical School and Health Center have been unified by the use of a buff tapestry brick trimmed with terra cotta or cast stone of a slightly lighter tone of buff. Window spandrels and certain isolated decorative features are gray green.

The total cost of the buildings of the group represent an outlay of $1,500,000. They are all of fireproof construction. The cubage costs vary from 45c to 75c per cubic foot, the average for the group being 55c.

The plot plan was determined by the irregularity of the site, with its benches, hog-backs and gulches. The highest portion of the property was used for the Medical School proper. All agencies in the Center are directly or indirectly under the control of the School. The group as seen from the city or from the hill itself on which it is built, is dominated by the Medical School.

The last building program in 1940 included the Weeks Memorial Medical Library, the Auditorium, the front portion of the west wing of the Medical School, and the first unit of the University-State Tuberculosis Hospital.

The first three, being intimately composed with the Medical School, were designed to do no violence to its scale, and to accentuate composition. When the Medical School was designed in 1917, it appeared to the designers to be restrained far beyond the taste of that period. Rhythm and functionalism were the key notes, relieved by color and the rich cornice terminating the strong masses.

The Medical Library was designed to amplify the importance of the Medical School and not in any way to compete with it. The cornice was a necessity, it appeared to the designers, but it recalled but the simplest members of the earlier ornate cornice of the School Building. A fenestration was adopted to frankly state the relative importance of the three reading rooms on the east and the main facade. Because of site limitations, the Auditorium was merged with the Library, being reached by adjustment of levels without passing through the Library proper.

These limitations not being imposed on the T. B. Hospital across the gulch from the Medical School, the elimination of ornament could be justified. The cornice motive was discarded and the building grew from the steep hillside on which it was built in forms containing specific functions. The public entrance being to the north, on the lowest level, made possible the separation of functions so often difficult to secure in hospital planning. On this level, entered from the front, are the T. B. Clinic, the admission and administrative offices, and the amphitheatre used by medical students.

A service road following the contours passes through the building back of the first floor of the north wing used for the above functions. From this service road, deliveries, ambulances, laundry trucks and hearse do their work—unseen and unheard by public or patients.

The elevator tower is reached both from this service exit and the entrance lobby. On the upper levels are the important operating rooms and the ward floors with all beds in sunny, quiet rooms. Below the operating unit in the upper floor of the north wing are the rooms overlooking the city and living quarters for internes. The kitchen is on the dining room floor, supplied from freight elevator, and from contour paths on the hillside. The X-Ray Ward is on the same floor as the operating rooms and the first of two floors for hospitalization which opens onto a secluded, quiet and sunny south garden.

The plan, so utilizing five levels, gives absolute control of the various functions of the

(Turn to Page 36)

OPPORTUNITIES FOR CALIFORNIA

Since we are only part way up our climb toward victory, we cannot now foresee just what lies over the hill. Any forecast of conditions in California after the war must therefore be based on certain assumptions. The first assumption is that the United Nations will win the war, completely and irrevocably, within three or four years. The next assumption is that in winning the war this State and the Nation will not have suffered great military disaster, such as invasion or damage to our cities that would cause a mass movement of people out of the State. The third assumption is that we do not have an extreme or disastrous inflation during the war or immediately thereafter.

With these three assumptions, here are some ideas about what the picture may be like in California when hostilities cease. Whatever I say in this article is merely my personal opinion and must not be construed as representing that of the National Resources Planning Board or the regional office in which I am employed.

First, what are the effects of the war on population and employment? We all know that California's population has grown rapidly since the 1940 Census. I estimate that the present civilian population of the State, not counting former residents who have gone into military services, soldiers from other parts of the country stationed in California, or the 90,000 Japanese who have moved into reception centers, is now larger by 400,000 or more than the total population of April, 1940.

Along with this increase in people, employment has been greatly expanded and the pattern of employment in the State, as represented by the distribution of workers among agriculture, manufacturing, construction, transportation, trade and services, has been suddenly distorted from what it was in April, 1940. According to the California Department of Labor Statistics, the number of persons employed in manufacturing in California has increased from 417,000 in April, 1940 to somewhere around 950,000 now, and the end is not yet in sight. The State is approaching a minimum residue of unemployed people, most of whom can find jobs only in certain lines of work suitable to their personal capabilities.

Furthermore, although inward migration is slowing down, I believe that by next summer another 100,000 persons will claim California as their residence. However, the State's civilian population then may not be any larger than now, because of the continued induction of men into military services.

On the other hand, unemployment will be further reduced, more workers will come into the labor force, particularly women, and total employment next summer will be 200,000 to 250,000 larger than this year, despite the anticipated loss of workers to the military forces.

The pattern of employment next year will be even more distorted than it is now. The number of workers in manufacturing will be increased to more than a million, while employment in construction, trade and services will shrink as government projects are completed, stores and shops close their doors, and more professional, clerical and sales people go into war industries and the military services.

In may, 1942, California led all states in value of allotments for war expenditures, having received at that time about one-tenth of the value of all contracts for war supplies and facilities projects. However, other parts of the country are gradually catching up and Michigan and New York have already exceeded the California figure.

MAIN EFFECTS OF THE WAR ON STATE AND NATION FORESEEN

Now, briefly, what does this expansion of population and employment mean for the post-war period?

As I see it, some of the major effects of the war on California, and for that matter on the Nation, will be:

[1] The imperceptible, but widespread, change in people's thinking and ideas.

AFTER WE WIN THE WAR

By V. B. STANBERY
Regional Counselor, N.R.P.B.

[2] The acceleration of technological progress during the war period—the rapid development and introduction of new forms of economic and industrial organizations, new methods, processes, machines, and new types of products.

[3] The large increase in money in circulation and in savings of the people as a whole, resulting from the huge war expenditures. We know that as a Nation we will have a greatly enlarged public debt after the war, but we forget that we will also have piled up more individual savings and credit.

[4] The tremendous movement of people, formerly living in small towns and rural areas, into the larger industrial centers.

[5] The widespread destruction of small business enterprises, not only in manufacturing but particularly in trade and service establishments.

Sixth, and last, the large increase in electric power capacity and manufacturing facilities.

Taking up first the change in people's thinking, I believe we all recognize that the American people are tremendously impressed by the wartime productive capacity of the country. Never before in the Nation's history have we produced in such a short time so much metal, so many houses and cantonments, so many ships, airplanes, guns, tanks, and equipment of all kinds. The demonstration we are making in production is greater than anything the world has ever seen. There are jobs for almost everyone, and incomes are higher than ever. The lesson of this war effort is sinking in. When we approach the post-war period, the American people may ask if it is necessary for anyone to be unemployed who wants to work.

NEW INVENTIONS AND METHODS OF PRODUCTION FOR POST-WAR ERA

Popular resistance to unemployment and a lower standard of living after the war will be all the greater because the American people know that the technological advances of a decade or two are being telescoped in time. Shortages of critical materials are forcing the manufacturers of the Nation to create substitutes that might not have appeared for many years.

Work in our industrial research laboratories has been intensified. Not only are new inventions and new methods of production being utilized in the war effort, but leading industrialists daily are announcing new products that will be put on the market when the war ends. Only recently a national meeting of the American Chemical Society brought revelations of wonders to come: stainless steel roofs, non-breakable windows, automobiles weighing half as much as present-day cars, automatic lighting devices, air conditioning systems that filter out all pollens, and other causes of hay fever, and many other things. Wartime sacrifices and hardships are building up a huge demand for these new goods after the war.

The war is giving Californians more money with which to purchase a great volume of consumer goods when the war ends. Billions of dollars are going into war bonds, into savings accounts, into payments on insurance policies. Old debts are being cleared up. The longer the war lasts, the greater the amount of savings that will accumulate. This huge reservoir of purchasing power should ensure immediate revival of peacetime manufacturing.

Since April, 1940, California's urban-suburban areas have received a heavy influx of newcomers from other states and from rural areas and smaller cities and towns. On the whole, these newcomers are earning more today than they previously earned. Most of them will be converted to urban living by the time the war ends, and only a fraction will probably want to return to the farms. Some of us think that shipyard workers who have to live in dormitories endure considerable hardship. But many of these workers have come from farm homes where there was no running water, no toilets and no showers. They have had a taste of city life that they will not want to abandon. They will become

urbanites. They will spend their incomes somewhat differently than when they lived in a small town or on a farm. They will spend more for amusements and luxuries, for automatic devices, for some of the new products now being developed in industrial laboratories.

The market for luxuries, apparatus of all kinds, appliances that make life more convenient and less arduous should be larger after the war than it was before, partly because of the greater concentration of people in urban areas.

Increasing urbanization of the population will bring about other changes in the post-war period. The average family size may shrink still further, since city dwellers tend to have smaller families than rural families. The birth rate, which has been soaring during the past three years, may resume the downward trend that worried sociologists before the war. But for the next two decades we shall have larger enrollments in California schools, more demands for manufactured goods required for children, and more attention to health and recreation. The concentration of population in cities, plus a new wave of wartime children, should stimulate movements to redevelop our cities so that they will provide better environments for living. Certainly the present massing of people in the vicinity of war industries in our major urban-suburban areas under conditions often detrimental to health and welfare should create a post-war demand for well-designed, low-cost housing.

Technological progress and wartime reorganization of business for the production primarily of armaments and military supplies is squeezing out many small enterprises. Numerous small manufacturing plants have closed their doors because they could not convert to war production. Others have folded up because of shortages of materials and inability to obtain enough skilled workers. The curtailment of production of consumers' goods and loss of employees to the armed forces have created insurmountable difficulties for hundreds of small stores, shops, and service establishments.

On the other hand, during the war the larger firms that employ big industrial research staffs are perfecting new materials and new machine tools for the production of improved lines of consumer goods. The market for these goods is being carefully explored and new sales organizations to distribute them are being outlined. Many of the little companies, hopelessly outdistanced by the concerns with huge resources, may be forced out of manufacturing and distribution.

POOLING OF INDUSTRIES MAY COME WITH READJUSTMENT OF BUSINESS

The problems caused by the elimination of many small businesses, probably will be among the most critical in the post-war period. A large part of the American people regard these small enterprises as the backbone of the Nation. There may be a concerted resistance to an inevitable reorganization of our business structure.

Just what form this reorganization might take is difficult to say. If you will permit me to speculate, I think we may expect more integrated industries in which several large plants, fabricating related goods, are coordinated under one leader in the interest of more efficient operation and more effective organization of the market. For example, we may see a pool of industries emerge from the war effort to produce not only prefabricated houses but also the furniture and electric appliances needed to furnish these houses. There may be a wide variety of these pools, each operating in a different field.

The war production program has given California and the Pacific Southwest a new and broader industrial base, offering prospects for larger and more diversified manufacturing after the war than before. This has been created by the opening of new mines, by the construction of great basic metal plants, such as the iron and steel plant at Provo, Utah, and Fontana, California; the basic magnesium plants at Las Vegas and Permanente; the aluminum plant being built in the Central Valley and hundreds of small factories built or converted during the war for manufacturing of articles made from metal. The basic metal plants will make possible peacetime enlargement of the West Coast iron and steel fabricating industry and machinery and equipment industries which

heretofore have been relatively underdeveloped. California may become a large fabricator of light metals using magnesium and aluminum produced by power from Boulder, Shasta and Bonneville dams.

With the tapering off of war production, a reservoir of low-cost power will be available for industrial use. Actually this power will cost us just about the same whether we use it or not. The dams will have been built, the generators installed, and the water will flow through the power houses day after day without ceasing.

This electric energy may become an important stimulus for further industrial development on the Pacific Coast.

While the long-range outlook for California is highly favorable, the post-war years will present serious and difficult problems of readjustment. The major problem, of course, will be that of providing new employment for the thousands of workers in the aircraft plants, shipyards and for the returning soldiers and sailors. While some of these war plants will doubtless continue in production, many will either have to shut down or be converted to peacetime operations.

To date California has received a far greater share of war expenditures in proportion to its population than the average for the country as a whole. Its population and labor force have grown more rapidly and its income has been correspondingly increased. But when hostilities cease, the State's position may be reversed. Although backed-up demands for consumers' goods may create an immediate post-war boom in manufacturing, California may not participate in this civilian production in proportion to its larger population because its pre-war manufacturing was chiefly in industries producing goods for local markets and its wartime expansion has been concentrated in aircraft plants and shipyards.

LARGE INCREASE IN TRADE AND SERVICE EMPLOYMENT FORESEEN

We should be unrealistic if we think that the huge number of persons employed in manufacturing in California during the war would continue to earn a living by this means after the war. The largest opportunities for creating post-war employment appear to lie in the development of new trade and service activities. So many trade and service establishments have been eliminated by the shift to a war economy that when peace returns there will be a need for replacement of thousands that perished. Moreover, there should be opportunities to expand these activities beyond the 1940 level.

The pre-war trend of employment in California and the Nation was toward an ever larger proportion of workers in the distribution of goods and in the performance of various professional and specialized services that make life more convenient and enjoyable. After the war this trend will probably be even more pronounced than before. All the displaced war workers can't go back to the mines, the forests, and the farms. In California the proportion of workers in agriculture, mining, lumbering and fishing decreased from 20 per cent in 1920 to 16 per cent in 1930 to 12.6 per cent in 1940, yet production of basic commodities increased. Likewise the proportion of workers in manufacturing was moving steadily downward between 1920 and 1940 under the impact of new labor-saving devices.

Manufacturing employment in California after the war will doubtless be numerically greater than it was in 1940 because there will be a bigger regional population for which to produce goods. But ultimately it cannot be proportionately much greater, because post-war manufacturing processes undoubtedly will still further reduce the percentage of workers needed in factories.

In the post-war search for new employment, displaced war workers probably will set up numerous cross currents of population movement. We may see workers who left smaller cities and rural areas to work in shipyards and aircraft factories returning to their former homes. This would somewhat compensate for the economic losses that these places have sustained through the wartime drain of population to the major industrial areas.

The upswing in business might come sooner in the small cities than in the large.

The Los Angeles and San Francisco Bay areas undoubtedly will experience an internal

reshuffling of population. There may be a movement from the outlying war industrial centers like Vallejo, Pittsburg, Sausalito, and Richmond back to the heart of the metropolitan region, while people in the central districts may want to move out to the suburbs. For some time these conflicting streams of population may make it difficult to ascertain the post-war direction of growth.

Community planning may be made difficult, though eventually it should become evident that both the internal area and the surrounding areas will have to be rehabilitated and brought into a more harmonious relationship. Between the larger areas, such as Los Angeles and San Francisco and the cities of the Pacific Northwest, there may be exchanges of restless, unemployed workers.

San Diego probably will lose workers to both Los Angeles and San Francisco. Some of the families who were attracted to California by war jobs probably will leave, but I doubt if the emigration will include more than 25 per cent of those who arrived after 1940. There is also the possibility that on top of all the milling about to be expected within the State, there will be a new influx of opportunity seekers from the East, as happened after the first World War. Eastern workers with some savings and a pent-up desire to escape from a wartime environment of toil and sacrifice may decide to see America while the seeing is good. California inevitably would act as a magnet for a large number in this group.

Needless to say, a reshuffling of population would present serious problems to the State. We hope, however, that the return to peacetime conditions can be sufficiently gradual to avoid aimless movements and the distress and friction that always accompany them.

What can we do to take advantage of post-war opportunities?

First, we can endeavor to keep informed about further changes in our population and economy and to appraise the effects of the wartime expansion in creating opportunities for new kinds of business after the war.

Second, business groups and Chambers of Commerce can urge leaders of private industry to study possibilities for post-war operations of their industries or conversion to peacetime production. This is a particularly important segment of post-war planning. The manager of a factory is in a far better position to solve problems of post-war operations for his plant than any Government agency.

But individual industries alone cannot do all the necessary planning. Neither can governmental agencies acting independently solve the economic problems involved. The combined and cooperative effort of individual industries, trade associations, and governmental agencies will be required for successful solution.

We have never adequately explored the possibilities for achieving economic advancement through programs of cooperative research by public and private agencies. Some industries spend millions of dollars annually investigating new uses for their products and improvements in industrial processes. This research more than pays for itself. It brings forth new products and enables manufacturers to expand markets.

But community-wide investigations of potential uses for economic resources, of feasible types of industrial development in an area, and of ways and means of increasing incomes and stabilizing employment in a particular locality have not been made. Industrial progress depends on continuation of physical research. The economic advancement of specific areas depends more and more on studies of potentialities for development. If our cities are to develop not only quantitatively but qualitatively, banks, industrial corporations, public utilities, civic and trade associations, colleges, universities, and Federal, state and local agencies should pool their efforts.

FINANCIAL RESERVE RECOMMENDED TO MEET POST-WAR READJUSTMENT

Third, Californians can urge their State legislators and city councils to build up a financial reserve during the war prosperity that will be an important aid in taking advantage of post-war opportunities in their communities and easing the problems of readjustment. California is one of the few states that has already enacted enabling legislation permitting municipalities and other local bodies to build up such reserves during periods of high income.

Fourth, the people can stimulate public officials to plan ahead for replacement of public equipment and structures that will have become deteriorated or obsolete during the war and to prepare post-war programs of public works that will enable them to be ready to meet their needs for physical improvements when the war ends. They can encourage their elected representatives to support cooperative planning—not only for post-war public works, but also for better use of natural resources, for urban redevelopment and for improvement of public services.

Some of us can remember that during the "Gay Nineties," which actually were not so very gay when measured by present-day standards, hotel rooms in the smaller cities throughout the country had signs on the wall reading: "Don't Blow Out the Light." In earlier days everyone had used candles and kerosene lamps for light. The way to turn off the light in a kerosene lamp was to blow out the flame, not to turn down the wick as doing this created a smudge and occasionally resulted in an explosion. But with the introduction of illuminating gas, the reverse became true; it was highly dangerous to blow out the light.

We are now living in an electrified and mechanized age. The war has intensified this mechanization. And one of the results of this technological progress is that it has reversed some of our previous rules for living. For centuries we have been learning what we must do to survive and live amicably as individuals with our neighbors. Gradually we have learned that certain things can be done and certain things cannot be done. And we have been trying to apply the rules we learned to live by as individuals to people in the mass and to nations as a whole, while actually in many things the people as a whole must do the opposite of what each of us can do as an individual. For example, any individual can properly draw his money on deposit in a bank at any time he pleases. But if all individuals try to draw out all their money at the same time, the institution becomes bankrupt. As an individual a farmer may plant a certain crop, say wheat, and expect a reasonable return from its sale. But if all farmers plant wheat, there is a surplus and the price goes down below cost of production. A single automobile can cross a bridge any time the driver pleases but if all drivers of automobiles attempt to cross the bridge at the same time there is a traffic jam.

The central problem of our generation is to make difficult readjustments quickly and satisfactorily. We cannot bring back the world of 1910 or 1925 or 1940. We have to deal with the world of 1942, 1945 and 1950. If our understanding keeps pace with the rapid march of events, we should be able to grasp our opportunities and work out our problems.

We will have to accept the fact that after the war, conditions will have changed again as they did between the kerosene and gas light periods. The greatest danger is that we will ignore new conditions and keep on trying to do as we have done before and **blow out the light.**

Copies of this paper, originally prepared for the California Housing and Planning Conference, are available in pamphlet form at 25c each. Address Pacific Southwest Academy, 2324 So. Figueroa Street, Los Angeles.

BRITISH WRITER LAUDS MODERN ARCHITECTURE

Excerpts from a new book, "Britain Rebuilt," by Eric S. de Mare

"Britain Rebuilt" is a new book, published in England and likely to have a good sale in the United States first, because it is ably written and second, because it offers a line of thought that may be applied to future architectural practice here as well as in Britain. Written by one of the keenest minds in England—Eric S. de Mare, "Britain Rebuilt" is far more than yet another book on "planning."

As John Hargrave, F.R.S.A., indicates in the Foreword: "This book is properly based on a vision—a mental projection—that answers the initial and the logical question that must always be asked: 'Planning for what?' 'Planning for free individuals in a State that is definitely aiming to become a Leisure State in a Power Age.' Clearly, the man believes what he is saying," concludes Mr. Hargrave, "and means to make his 'dream' come true. Other young architects are working with him along the same line—to build a new Architecture in the new materials."

THE "NEW ARCHITECTURE" ANALYZED

"Modern architecture — by which I mean those few isolated examples throughout the world by such men as Walter Gropius, Mies van de Rohe, Erich Mendelsohn in Germany, Le Corbusier in France, J. J. P. Oud in Holland, Richard Neutra, Howe and Lescaze and Frank Lloyd Wright in America, Sven Markelius and Gunnar Asplund in Sweden, Alvar Aalto in Finland and Maxwell Fry, Serge Chermayeff and the firm of Tecton in England—is often considered by the general public to be stark, inhuman, and the very negation of beauty,—the visible symbols of the horrors to came of Aldous Huxley's 'Brave New World.' This is largely the result of prejudice, conservatism and misunderstanding. The snobbish cult of the curio and the antique and the regrettable relic of Beckfordian romanticism have also tended to fog the understanding of the New Architecture. It is still commonly held that flat roofs, large areas of glass and tubular furniture are the whole of modern architecture. Actually modern arcihtecture is much more than that. It is the expression of a new way of life that is trying to be born—of a new philosophy and a new attitude of mind—of the desire and the possibility of affording to every human being the advantages of health, cleanliness, comfort, freedom and happiness.

"The lack of ornament in the New Architecture has a particularly startling effect on the uninitiated. The discarding of the older forms of superficial and meaningless decoration with which we still clothe our buildings is certainly one of its distinguishing features. Ornament applied to building was formerly the result of handicraft, of the direct human touch. Immediately ornament is turned out by the yard by machinery, as a copy of the old hand-made decoration, it ceases to have any real meaning. The Machine cannot of itself create anything. It is a tool which can repeat 'ad infinitum' certain functions which it was made to perform. Purely mechanical repetition is the very negation of good decoration. Applied ornament is therefore not the Machine's method of beautification.

"Intrinsically, there is no reason why ornament should not be used provided that it is the result of handicraft and is an integral part of the design, in other words, that it is **of** the surface and not merely **on** it, as an articulation of its structural form. But applied excessively in modern building, decoration is out of harmony with this mechanical age of rationalization and rapid transport, and tends to mar rather than to adorn the clean and simple perfection of surface and proportion of truly contemporary design, whose chief emphasis is on three-dimensional massing and beauty of texture.

"Decoration applied carefully at the most telling points especially in the form of sculpture

Editor's Note: "Britain Rebuilt" is published by Sidgwick & Jackson, Ltd., 44 Museum Street, London, W. C. I. Price, 2 shillings and sixpence.

can, however, have a most vitalizing effect on the geometrical lines of a modern building. A good use of sculpture can be seen in Epstein's figures on the offices of the London Passenger Transport Board.

ARCHITECT VS. THE ENGINEER

"The New Architecture is not the mechanistic and soulless product of engineers and technicians. The new materials and methods of building are the agencies which properly used and controlled can release instead of destroy vital and creative architectural design. There should be no conflict between engineering and architecture, for engineering is merely a new and highly technical method of building. Today the engineer and the architect have different functions, but these will tend to merge. At present the engineer is a purely technical expert whose services the architect uses for his far wider and more humanistic activities. It is now the architect's job to civilize technology, to become a co-ordinator, and to plan and design buildings, towns and whole countrysides for the sake of beautifying and enhancing human life in this mechanized age.

"Honesty of structure simply means that building materials are treated and used in the manner for which they are most suited, and do not try to imitate any other material. A common and typical example of dishonest expression is the covering up of a steel framework in stone to give the appearance of solid masonry. Compare the Ritz Hotel in Piccadilly built in 1906 (which was incidentally the first steel-framed building to be erected in London), with the new Peter Jones store in Sloane Square, also of steel-frame construction. The first is a meaningless fake, and the latter is a vital and imaginative design using steel as it should be used. The practice of covering steelwork to look like masonry may not at first glance appear to be a sham but the sub-conscious mind will register the deceit and the character of the building will be unsatisfactory.

"Many blatant examples of dishonest design can be seen in most interiors today, such as electric light bulbs imitating candle flames, electric fires pretending to be flickering coals, linoleum like tile flooring, even wireless sets like beer barrels and so on 'ad nauseum.'

STANDARDIZATION AND MASS PRODUCTION

"Mass production has come to stay," the author avers, insisting "there can be no return to the hand-operated tool of the craftsman."

Discussing "Prefabrication," de Mare writes:

"The advantages of prefabrication are several. First of all, it means dry assembly. Moisture is the direct cause of most of the weaknesses of the old methods of building, leading to badly fitting joints, staining, warping and serious loss of time and money through delays in drying. Prefabrication is quicker and also more certain, because the whole building is made of accurate and uniform standard parts whose behavior is known and tested. Also any defective part can immediately be replaced from stock. It eliminates seasonal dislocation of the building industry and makes possible a fixed and definite pricing before building begins.

"The common brick is a very old form of prefabricated unit, and is likely to remain a valuable building material.

"The complete prefabricated house has yet to arrive in this country but it is coming. Experiments have already been made in the U.S.A. in this direction. Especially important at the present time is the development for war purposes of the mass-produced 'stressed skin' type of wall and roof unit, which while making extremely rapid construction possible, gives the strength, rigidity, economy and lightness of aeroplane construction. There is no doubt that shortly it will be possible to order ready-made houses from stock which will arrive on a couple of lorries and be erected complete and ready for occupation with all fittings within twenty-four hours. Before this is possible, however, every part of the house down to the smallest detail would have to be standardized —floor beams, wall slabs, roof units, windows, doors, staircases and fittings. It must be repeated that this would not lead to a dead uniformity, for the possible combinations of only a limited number of units are very large indeed.

* * * * *

"Rationalization is having an enormous effect on building technique and it will eventually be its outstanding feature. The new materials are also revolutionizing architectural design. The

great difference between the new and the old materials, is that the new ones are synthetic, taken less and less direct from natural sources, whereas the older materials are the former 'raw materials' of building, such as stone, timber, slates.

"The most important of the new materials are structural steel, reinforced concrete and glass. Structural steel dates from the last century, its immediate predecessor being the more brittle and weaker cast-iron. It is generally used in lengths having the sectional shape of an 'I,' which are produced in rolling mills. This shape produces great strength with the minimum of material."

MEDICAL SCHOOL CENTER

(Continued from Page 27)

hospital without undue interference—one with another.

Besides the University Medical School Center, the architects show in this issue a photograph of a model of Oregon's Victory Housing Project under construction at St. Johns, Portland. Lawrence & Holford, Jones & Marsh and Roald & Schneider are the architects; John W. Cunningham & Associates is the engineers and Wilbert L. Davies the landscape architect. The project involves some 1,000 dwelling units estimated to cost $3,200,000.

LATEST TRENDS IN BUILDING CONSTRUCTION AND EQUIPMENT

PLYWOOD BATHTUBS—A bathtub constructed of plywood and coated with a plastic, equipped with an all-plastic drain, has been designed by a Cleveland brass work executive. Three firms are expected to begin production almost immediately. Price: about 25 per cent less than that of enameled iron tubs!

PRECAST CONCRETE JOISTS—A new development in precast reinforced concrete joists is the substitution of wire of higher unit stresses in place of steel bars. Lower cost of the finished joist is claimed, lower even than wood construction.

NEW GLASS PRODUCT—Foamglas is a glass product of a honey-combed or cellular structure with a density less than ordinary glass and with greater volume for the same weight. It is opaque, at present black in color, and weights 10½ lbs. per cubic foot as compared to 150 lbs. for solid glass. It can be sawed, drilled, or shaped without breaking. It floats! Its insulating qualities are about the same as cork and is resistant to the entrance of moisture.

IDEAL WAR FACTORY—An egg-shaped windowless structure of reinforced concrete gives the greatest strength with the least material and saves 60 per cent of the steel ordinarily used, said George H. A. Parkman, Westinghouse construction expert, in presenting his ideas for the ideal war factory. Such construction would be bomb-resistant and fireproof, he added.

ROBOT FIREMAN—A robot fireman that automatically discovers and puts out fires, has been developed by research engineers of the Westinghouse Electric and Manufacturing Company. It features an "electric eye" (photo-electric tube) installed in a small mobile brass dome with a snout that is connected with a fire extinguisher by means of a tube. Driven by an electric motor, the dome moves back and forth and up and down. When the "eye" catches the light from a fire it actuates a relay that stops the dome, opens the valve of the extinguisher, points the snout at the blaze and sprays it with water.

PORTABLE INTERIOR WALL—A new kind of portable interior wall, which is made up and locked into place like a page of newspaper type, is announced by the Owens-Illinois Glass Company. Neither nails nor fastenings are required. The wall is made of glass blocks, with slotted edges. Fitting these slots are prefabricated boards, laid between the blocks, taking the place of mortar. Erecting the wall is just a matter of laying down glass blocks and board strips alternately.

SUBSTITUTE FOR ALUMINUM—Pressed wood hardboards are replacing aluminum and non-ferrous alloys in the manufacture of fan blades, gears, grilles, and motor housings.

COMPETITIONS

Store Front

An architectural competition, open to all architects, designers, draftsmen, engineers and students, is announced by the Kawneer Company and "Plan" (new name for Pencil Points) for the best design of "A Store Front of Tomorrow." The competition is reported to have the approval of the A.I.A. despite the fact that other than licensed architects are eligible. The competition closes January 4. Complete program may be obtained by addressing the sponsors at 330 W. 42nd Street, New York. Prizes will be as follows: First, $1.000; second, $500; third, $250 and five Honorable Mentions, each to receive $100.

Red Cross Photo Contest

Camera fans the country over are responding to the call of the American Red Cross for photographs depicting its wartime activities. This was announced by Red Cross officials at the conclusion of the first two weeks of the national photographic competition, which began October 1 and will continue through December 31, and which is sponsored by the Red Cross to provide a pictorial record of its activities at home and abroad.

The competition, which is known as the "Red Cross National Photo Awards" with headquarters at 598 Madison Avenue, New York City, offers a total of 122 awards divided into 14 grand prizes, and for each month of the duration of the contest, 36 monthly prizes. Awards will be in the form of war savings bonds, and the values given below represent maturity values of these bonds.

Monthly awards in the contest will consist of a first prize of $200, a second prize of $100, a third prize of $50, and 33 special merit awards consisting of a $25 war bond each. First prize in the grand awards consists of war bonds with a maturity value of $500; second prize, $300; third prize, $200; fourth prize, $100; and 10 honorable mention prizes, each composed of a $50 war bond.

Post-War Urban Home

Architect and Engineer will soon announce an architectural competition for a post-war urban house to be built of new and substitute materials, such as prefabricated parts, latest standards of illumination, heating, air conditioning, plywood and plastic plumbing fixtures, glass stoves, etc. Substantial prizes will be offered and the drawings will not only be published in the Architect and Engineer but will be exhibited for public view in San Francisco and Los Angeles.
Angeles.

Bridge Design

As announced in last month's issue the American Institute of Steel Construction will sponsor another bridge design competition, open to registered students of architecture and structural engineering. Prizes aggregating $350 will be given. Awards will be made by the jury February 17, 1943. The program may be obtained by addressing the Institute at its executive office, 101 Park Avenue, New York City.

Chicago's Blighted Areas

Architects of Chicago have been invited by the Chicago Plan Commission to submit sketches and plans for rebuilding the blighted areas in which a seventh of the city's population lives. Many leading architectural firms have already indicated a desire to participate, T. T. McCrosky, executive director, told the commission.

"We want the ideas of every practical builder and planner," Mr. McCrosky said. "We desire the architects to select specific areas with which each is familiar and to give us concrete ideas of how he thinks each area can be rebuilt."

Mural Decoration

Competition for a mural decoration in an oil medium for the library of the Museum of Fine Arts, Springfield, Mass., is announced. An award of $4,500 will be paid for the work including execution and installation. The competition is open to all artists resident in the United States, Canada and Mexico. Designs must be submitted on or before May 24, 1943, addressed to the Museum of Fine Arts, 49 Chestnut Street, Springfield, Mass. (See announcement in detail, Page 7, this issue.)

ARCHITECTS—WHERE TO FIND THEM

Since our last issue architects have changed their addresses as follows:

Charles H. Holstrum from Fifth Avenue Building, San Diego, to 3316 Gregory, same city.

Donald B. Kirby's mail from 10289 Bannockburn Drive, Los Angeles, to Box 265A, Balboa Island, California.

William Koblick from 3719 30th Street, Sacramento, to 727 Swanston Drive, same city.

Charles S. McKenzie from the Twohy Building, San Jose, to 22 South Seventh Street, same city.

Mildred S. Meyers, from 2024 Central Avenue, Alameda, to 2021 Alameda Avenue, Alameda.

Howard R. Perrin, moved from 206 Underwood Building, Klamath Falls, Oregon, to 154 N. W. Maywood Drive, Portland, Oregon.

Chester O. Root, from 354 Security Building, San Jose, to Route 3, Box 125B, Los Gatos.

W. E. Schirmer from 1106 Broadway, Oakland, to 1419 Broadway, Oakland.

S. E. Sonnichsen from 663 Paramount Building, Los Angeles, to 644 Lucas Avenue, same city.

W. P. Stephenson from 241 Garfield Avenue, Pomona, to 254 Garfield Avenue, same city.

William Symmonds moved from Post Office Building, care of Federal Housing Administration, Sacramento, to 1117 39th Street, same city.

James D. Wickenden from 565 Santa Rosa Road, Berkeley, to 762 Vicente Avenue, same city.

Irving F. Morrow has closed his San Francisco office

in the deYoung Building and for the time being mail will reach him at his home address, 6175 Hillegass, Oakland.

Irvin Goldstine (architect) now a lieutenant, wishes catalogues, literature, and building material mailed to him at Coast Engineer's office, Camp Knight, Oakland.

Ernest F. Tucker from 1938 Irving Street, Portland, Oregon, to Englewood, Oswego, Route 1, Oregon.

Donald B. Kirby, mail from 10289 Bannockburn Drive, Los Angeles, to Post Office Box 265A, Balboa Island, California.

JOBS AFTER THE WAR

Prospects for employment in the construction industry will be exceptionally good after the war, Dan W. Kimball, president of the Associated Contractors of America, said in a recent radio broadcast.

Pointing out that construction employs more men than any other industry, the building authority said:

"Men can be more quickly re-employed by the construction industry than by any other, because of a high degree of mobility, freedom from need of re-tooling, and the opportunity for employment of a large proportion of untrained or semi-skilled workmen."

The construction industry believes that the nation has a great future, Mr. Kimball said, adding that he foresaw the following post-war building needs:

One million new homes a year for many years after the war.

Rebuilding of poorly planned cities and run-down urban areas.

Large scale projects to improve whole sections of the nation by providing irrigation, flood control and development of water power.

Expansion of the entire American transportation system—highways, railways, waterways and airways.

New building for new industries born of wartime technological advancement.

The greatest market for post-war housing will lie in the moderate-cost, urban home, built to sell at $2,500 to $3,500, Mr. Kimball predicted. On the basis of a 110-billion dollar national income, homebuilding will represent 7 per cent of America's total economic activity.

"Obsolescence, due to wartime invention and development of new products will greatly stimulate the need for new industrial, commercial and institutional construction," he said.

Forecasting improved "factory production-line methods" in the building industry, he said:

"The industrial pattern of future housing construction will be, first, simplification and standardization of the materials used; second, simplification and mechanization of the processes of assembly, and third, attainment of volume production."

The path for new developments has been opened by the pressure of wartime necessity, said Mr. Kimball, explaining that new materials for all types of construction are today having their first genuine opportunity.

"Overly stringent building codes are now being revised; realty taxation is being moderated; blighted areas are now available as cheap land to be converted to new social and economic uses," he said.

Calling for more attention to post-war planning problems, Mr. Kimball said:

"Programming of a policy for public works projects, whether in housing, institutional or utility construction should have immediate action in order to meet the shock of post-war readjustments, regardless of how near or far removed may be the date of victory."

VITALLY NEEDED WAR HOUSING

Here are five important changes in policy recommended by the Western States Housing Authorities Association in resolutions passed at its recent conferences:

1. An immediate speed-up of processes of determining need and certification with definite participation of local authorities in establishing need for local housing.

2. That immediate priority ratings be given at time of allocation of projects and that such priority ratings be adequate to provide materials and that such materials be segregated so that there is a certainty that projects once started will be completed in a minimum of time.

3. That the War Production Board decentralize its functions for approval of war housing matters and provide for autonomous decisions in its regional offices to the end that contingencies which arise with regard to limitation orders and appeals may be determined locally.

4. That Housing Authorities duly established and in operation or may be established be designated as local agents for Army, Navy and Maritime civilian housing construction through the regional agencies with adequate critical material priority allocations with such work to be performed by negotiated bid, competitive bid, or other approved methods, conforming to the time elements requested by these agencies.

5. That unplanned civilian emergency construction now using large quantities of critical materials, that should properly be used in war emergency housing, should be abandoned in favor of more efficient, less expensive, public war emergency housing.

Local housing authorities already have competent staff and personnel to efficiency handle problems of this nature and should be named as sole agents for such construction and management.

OPENS SAN FRANCISCO OFFICE

Keith O. Narbett, architect of Richmond, has opened a San Francisco office at 564 Market Street (telephone DOuglas 8248). His Richmond office at 468 31st Street, will be continued.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
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CONVENTION

The State Association convention for this year is now a matter of history. New committees have been appointed for the current year and are beginning to function. The attendance and business-like attitude of the convention program were very gratifying to those concerned about the vigor of the profession in these critical times. Certain of the individualists, we are happy to note, were not in sympathy with the predictions of some convention speakers to the effect that the post-war world is to be more than ever a process of using a bureau for a dining table. The united efforts of the professions and business are required to stop the smothering tendencies of governmental agencies. For the duration, only, the war effort counts—but, fortunately, war organization is not the ideal of millions of Americans for peace time living.

Camouflage School

Between sixty and seventy aspirants for certificates of competence in camouflage have enrolled in each of the classes now being conducted at the three largest of our Pacific Coast universities: Washington, California and Southern California. The course comprises two sessions a week for fifteen weeks. The membership of the classes was restricted to architects, engineers and others whose background gave promise of ability to direct a competent job of enemy deception at the completion of the course.

It is the intention of Ninth Civilian Defense Region Camouflage Section to confine the approval of the Civilian Defense authorities to those men who have successfully completed the camouflage school when naming persons competent to take charge of camouflage projects. Several works of major importance have already been carried out in the Pacific Coast area.

The lecturers for the course include: Wm. Pereira, Asst. Director in Charge of Division of Property, Ninth Civilian Defense Region; Capt. Delman and Lt. Rosencrantz of the U. S. Army; R. C. Wilson, Forst and Range Experiment Station; Michael Goodman, H. L. Vaughan, Harry W. Shepherd, H. L. Mason, of the University of California and Howe Barnes of the Office of Civilian Defense, Division of Property Protection.

Harris Allen

For lo, these many years the Architects' Bulletin has been coming to the readers of Architect and Engineer from the anonymous pen of friend Harris Allen. But at long last he has decided that too much has finally become enough and this month, if he is reading this column, it is for other reasons than to see whether there are any typographical errors. Few men have equalled his unselfish effort toward the advancement of the architectural profession on the West Coast. We are sorry to have him relinquish any part of a work to which he has brought so much enthusiasm.

Gas Rationing

Several conferences have been held in recent weeks with rationing officials regarding the inclusion of architects and engineers in the preferred categories when gasoline rationing goes into effect. Fourteen classifications are in effect in the eastern states now "enjoying" gas rationing. The latest word on the subject is that architects and engineers engaged in the design and supervision of war work will be entitled to apply for additional gasoline under classification #12 of the list, which includes construction, repair or maintenance service, and specialized services to agricultural, extra active and industrial establishments.

Man Power

Manpower and the war effort was the subject of a straight-forward account by Colonel Harshman of the War Manpower Board to the Building Industries Conference Board in October. The return to industry of men in the upper draft age levels who have been inducted into the army but who are more useful in civilian pursuits, has already been begun, according to Colonel Harshman. The use of women in heavier types of work, with men members of the same crew to do the heavy lifting proved satisfactory for work in which women were not considered in normal times.

OPPORTUNITY FOR CAMOUFLAGE WORK

While the following letter from Captain Walter C. Fain, office of the engineer, headquarters of the Second Air Force, Fort George Wright, Washington, addressed to Harris Allen of San Francisco, may not appeal to many architects, there may be some draughtsmen interested, and in that event they should send to Captain Fain for application blank and other information:

"Undoubtedly, through your professional publications and through the daily press you have heard of the tremendous importance of camouflage in the present war. Up to the present time, war has been largely confined to guns, tanks, and troop movements. Now, with camouflage, the artist and architect becomes an important member of the team. It is in regard to this that I am taking the liberty of writing you.

'The Second Air Force is now enlisting men for instructors and technicians in camouflage. The work will require an appreciation of color, an understanding of nature and a good sense of design. One should be handy with small tools and have at least a carpenter's knowledge of construction. Scene designers, architects, draftsmen, artists, commercial artists, contractor-designers, architectural and engineering students are admirably equipped for this branch of the service. They will be enlisted as privates but can attain the rank of technical sergeant. Officers candidate schools are always open to men of proven ability.

"To enlist in this branch of the service, they should write directly to this office and they will be informed of the proper procedure. As we are enlisting only a limited quota for this work, it is imperative that the enlistee act at once, before the quota is filled.

"It is our desire to place men in those positions where they are best qualified to serve and it is in line with this policy that you can be of help to us by giving this information all the publicity you can among men whose talents are indicated above."

U. S. REPORT ON CONSTRUCTION

Total private and public construction activity for the first half of 1942 in the Continental United States amounted to more than 6 billion dollars.

Under the expanded war program public construction rose from approximately 2.4 billion dollars in the first six months of 1941 to 4 billion during the first half of 1942.

Military and Naval construction increased 84 percent over the first half of 1941 and the construction of federally financed industrial facilities increased threefold over the same period.

Total private construction during the first half of 1942 amounted to 2 billion dollars, a decrease of about 400 million dollars from the same period in 1941. First quarter activity was almost as great in 1942 as in 1941, with the decrease of 400 million dollars occurring in the second quarter.

Private non-residential expenditures, including privately financed war plants, declined 41 percent in the first half of 1942 as compared with the same period in 1941. Non-farm residential construction activity was 24 percent under the 1941 level; expanding farm income during the first half of 1942 resulted in greater expenditures for farm residential and service buildings. In order to meet war and essential civilian requirements public utility construction was increased 17 percent over the level for the first half of 1941.

Federally financed war housing expenditures in the first six months of the year amounted to 226 million dollars. Public non-residential activity declined to about 75 percent of the total for the first half of 1941. Highway construction was curtailed about 14 percent. Other federal construction, largely conservation and development work, increased slightly as compared with the first six months of 1941 while state and local construction dropped from 105 million to 85 million dollars.

MASTERBUILDERS AND ARCHITECT ENGINEERS

The Architectural Forum issued under date of May 29, a circular letter addressed to "Dear Mr. Engineer" which states among other things, the following:

"A minimum of 400,000 additional housing units will be designed and built by December 31, 1942. Like other government work this huge commission will go to professionals who seek it and who understand the procedures and complex problems involved. In this and all

phases of the program the experience of engineers, who are already active in war housing, can be invaluable."

In justice to the Forum it should be stated that a similar letter was addressed to architects.

Here is another indication of a trend which the writer has so often warned will inevitably occur as a result of that cleavage between architects and engineers for which the architects themselves are so largely responsible, and which tends to place the larger and more worth while work in the hands of what the public and the government seem to consider the less visionary, more practical, better equipped and better trained executive, the engineer.

Now that architects have so little else to do, perhaps they should devote themselves toward overcoming this handicap. One method might be to tackle the technical schools, abolish the separate registration laws, and frankly admit that an engineer is an architect and vice versa. Both are masterbuilders, and aesthetics are an important but secondary consideration in this machine age.—Victor A. Matteson, I.S.A., F.A.I.A., Chicago, in Illinois Architects' Bulletin.

A BANG-UP JOB

"Editor, Architect and Engineer:

"When I returned from the A.I.A. convention on July 2nd, my office was a madhouse. We were commissioned to do the Administration Facilities of the big Vancouver Housing Project on June 8th, to go out for bids on July 15th (I really had **no** business going to Detroit). We actually finished on Friday, July 31st!

"This is the first breathing spell I've had in two months, and the arrival of my returned photos today reminded me that I never wrote to thank you for that splendid June number. I think you did a bang-up job and it has been causing a lot of comment in this locality.

"Kindest regards,

Roi L. Morin."

Portland, Oregon.

NAVY SEEKS ENGINEERS

The United States Navy has announced a need for civil, architectural and sanitary engineers **experienced in construction work** for service as reserve officers. Qualified men will be assigned to important duties in connection with the expansion of all types of naval activities.

Actual experience in the construction of bridges, dams, power plants, piers, quaywalls, storehouses, air fields, railroads, cantonments, water and sewage disposal facilities is required of prospective engineer officers. The Navy does not need design engineers or architects at this time.

Reserve officers serving with the engineer corps wear the same uniforms and receive the same pay as officers in the Regular Navy.

Engineers who have had construction experience in a responsible capacity, and a record of professional progress, are invited to apply for an interview at the Office of Naval Officer Procurement, 703 Market Street, San Francisco. The office is open daily, including Sundays, from 8:00 a.m. to 4:30 p.m.

NEW PRODUCT FOR WARM AIR HEATING

Sall Mountain Company, 176 West Adams Street, Chicago, Illinois, has developed, and is now marketing a new, non-metallic supply duct for use in warm air heating and air conditioning systems.

The duct is acceptable in residential installations carrying normal temperatures in either gravity or blower types and can be used up to within six feet of the plenum chamber on the supply line and the entire return line.

Not only does "Sal-Mo Supply Duct" save up to 90 per cent of the usual metal in a typical installation, but it is quicker to install. The small amount of metal necessary is in the form of standard fittings and simple collars.

A most unique feature of this new duct is its compactness for shipping. Because of its special corner design, a complete fabricated section can be packed in a folded position. This permits simple, practical, economical handling and storage.

Complete data may be secured by writing the Sall Mountain Company, 176 West Adams Street, Chicago, Illinois.

POST-WAR HIGHWAY BUILDING PROGRAM

Brigadier General Philip B. Fleming, Federal Works Administrator, has announced that the first actual engineering work on post-war public construction—a projected highway building program to cost nearly $500,000,000—is well under way.

The engineering work, extending from conception of the improvements through surveys and the preparation of detailed plans and specifications ready for the contractors' bids, is going forward as a joint Federal-State undertaking. It is being financed from a special $10,000,000 fund which the Congress authorized in the Defense Highway Act of 1941 with the requirement that the States match funds for projects according to the usual Federal-aid plan.

A.I.A. EXECUTIVE URGES EARLY POST-WAR PLANNING

Formation of a nationwide organization to mobilize public opinion for a vast post-war housing construction drive is urged by Dean Walter R. MacCornack of the Massachusetts Institute of Technology, Vice President of the American Institute of Architects. The work of the organization would be the "backbone" of a program for the rehabilitation of American cities now under consideration by the Institute.

It is further suggested by Dean MacCornack that American architects meet with members of the Royal Institute of British Architects, when possible, to discuss the post-war reconstruction problems of Europe and the Orient. Dean MacCornack envisions the mobilization after the war of thousands of technicians, architects and representatives of finance to bring world-wide order out of chaos.

As another step in creating in the public mind support of city planning and housing programs that will benefit the community, Dean MacCornack proposes that schools adopt educational programs that will emphasize the importance of post-war rehabilitation.

"This educational process cannot begin too soon," according to Dean MacCornack, "and the responsibility lies with the school systems of America to induct into the minds of the youth an appreciation of the worthwhile things of living.

"Too many of our educational institutions, especially those having to do with architecture and engineering, have felt the questions of aesthetics are subservient to archaeology and some of the detailed formula of engineering practice and have neglected to include in their curricula any courses which deal with the obligation of professional men to engage in the crusade against those social and economic conditions which are bringing about a decay in the morale of the people.

"There is little or no relationship between the various kinds of educational institutions; no uniting of their programs for the common purpose of creating better living conditions and higher economic standards and therefore better men and better cities."

A long-range program of reconstruction to be successful must be based upon enlightened legislation, Dean MacCornack holds.

"Those of us who have observed legislation in the Congress have been struck by the fact that various organizations appearing before legislative committees on housing and other bills having to do with the construction industry are not organized in their approach and too often appear for what may often be described as selfish interests.

"This problem is so great and so far-reaching, so all-inclusive that it is suggested that a nationwide organization be formed which would create a public opinion regarding important matters in the reconstruction program. All elements should be represented."

Dean MacCornack suggests that savings banks, building and loan associations, engineering societies, insurance companies, building owners, women's clubs, taxpayers associations, and community groups be represented in the organization. He also mentions specifically the United States Chamber of Commerce, American Bankers Association, National Association of Real Estate Boards, American Medical Association, American Bar Association, and the National Association of Manufacturers.

"The purpose of this group would not be to make any more plans or any more reports, but to find ways and means for sifting the facts and being responsible for action.

"Already in several cities one or two organizations of a similar nature have been started and these, of course, would be necessary as subsidiary sections of the over-all national group, because their responsibility would be in the matter of state legislation, local legislation, and the actual work of getting the program under way in their own localities.

"There would be complete and sympathetic collaboration between these groups and the governmental agencies, national, state and local. Good legislation would be supported and bad legislation defeated. This suggestion is the backbone of the reconstruction program now being considered by the A.I.A."

Dean MacCornack predicts that the post-war era will provide great opportunities for reconstruction. "Immediately at the end of the war," he says, "there will be in the neighborhood of ten million men in uniform and fifteen to twenty million men in industry released from war activities."

He cites the important part finance will have in the program and urges "that all unnecessary restrictions be removed from institutions which can so ably and constructively" lend assistance.

Dean MacCornack says that the bombing attacks on London will eventually bring about a beautification of that city.

"In London during the great fire of 1666, Sir Christopher Wrenn devised a plan for the rebuilding of the city, which, had it been acted upon, would have made London one of the most beautiful cities in the world and St. Pauls Cathedral, instead of being hemmed in on all sides by shabby property, would have stood in the midst of a fine oval place, approached by a

broad roadway from Ludgate, instead of by narrow Fleet Street. Again, instead of the miscellaneous collection of riverside warehouses a broad embankment would have bordered the river from the Black Friars Bridge to the Tower.

"Today, however, the bombing of some of this area gives London once again the opportunity to replan large areas of its city on a more perfect basis and there seems to be a good chance that long-range planning in England will have its day and out of the chaos and destruction of the war will come better cities."

In America, Dean MacCornack points out, opportunities to beautify cities were lost after the great Chicago fire, the San Francisco earthquake and fire, and the Chelsea fire, near Boston.

"We must face, and face it now, the question of what we are going to do with American cities which are fast approaching bankruptcy and which cannot long continue to be the important centers of a sound civilization unless steps are taken to cure the evils existing in them.

"Our housing has been based on the type of housing built in Middle Europe and in some cities has taken the form of ten and twelve story elevator buildings. Our housing does not furnish homes, but storage warehouses for families. The fundamental and ideal requirement of happy family life is an individual house, and why we should continue to house people in New York City on land that costs from eighty thousand to two hundred thousand dollars an acre is a mystery. Until we consider housing for the indigent on cheap land and in houses that can be built for $250 a room, instead of $1,000, we will still be in the 'Dark Ages' of housing."

As an example of how proper planning can benefit a city, Dean MacCornack cites the opening up of playgrounds in the slum areas of New York City. These playgrounds, he says, have resulted in a decrease of 50 per cent in juvenile delinquency. "This is a real point of attack on our twelve billion dollar crime problem," he concludes.

ARCHITECT'S RESPONSIBILITY TODAY

The following is part of a letter recently mailed to architects in California by the W. S. Dickey Clay Mfg. Co., which formerly maintained an office in San Francisco, with a branch plant at Niles. Reason for printing this letter is our belief that it is a timely expression of the architect's place in the present scheme of things.

Never, in the history of architecture, has so great a responsibility been placed on the shoulders of the architect. From your drawing board will come the America of tomorrow.

Right now most of us are too busy to think much about anything but winning the war. Americans in uniforms, overalls, or "white collars" are sacrificing personal pleasures and gains to smash the tyranny that threatens us.

But, Mr. Architect, these men and women have their dreams . . . visions of a better and happier world for all after the war is over. New homes . . . the elimination of slum areas . . . more gracious living conditions for the city, the suburbs and the farm.

Americans have heard and read much about new materials, new methods of construction, new kinds of homes and offices. They are looking forward to a new world that will be fresh and different and which will not remind them of the agonies through which they are passing.

This is your task. On your drawing boards the dreams of countless Americans must take shape and become real . . . not tomorrow, but now!

There are three reasons for immediate action! In the first place you must whet the appetite of your fellow men for better homes and offices so that they will want to build when peace comes. This can be done by showing them glimpses of post war houses now. In the second place, a great volume of construction must be ready for almost immediate work upon the declaration of peace. This will be necessary to absorb the unemployment that will be the natural result of a shift from a wartime to peacetime economy. And thirdly, Americans are impatient people. They like action! After waiting years for their new homes, offices, schools, churches, hospitals and other private and public buildings, they will not be content to stand around and wait again.

EASY AS PEELING SUNBURN

Concrete cast against the new Hydron form linings, developed by United States Rubber Company, is several times as resistant to weather and abrasion as ordinary concrete. Here the fabric facing is peeled

from the concrete, after the forms have been removed, leaving a surface which is smooth and attractive in appearance without refinishing.

LATIN-AMERICAN WINS SCHOLARSHIP

The Delano and Aldrich Scholarship, given to an outstanding young foreign architect for four months or more of study and travel in the United States, has been granted for the first time to a Latin-American rather than to a Frenchman, Leopold Arnaud, Dean of the Faculty of Architecture at Columbia University, and Chairman of the Committee on Pan-American Affairs of the American Institute of Architects, announces.

Carlos Lazo, Jr., of Mexico City, was the winner of a competition organized by the Sociedad de Arquitectos Mexicanos, after the Committee of Pan-American Affairs had selected Mexico as the republic which should receive the award.

BUILDERS
ARCHITECTS
CONTRACTORS

THE NEW SAL-MO Non-Metalic SUPPLY DUCT

Will Help Solve YOUR Metal Shortage Problems

This new non-metallic conduit saves metal in constructing supply and return duct lines for warm air heating, air conditioning and ventilating systems. It permits many installations that would otherwise be impossible because of the shortage in critical metals.

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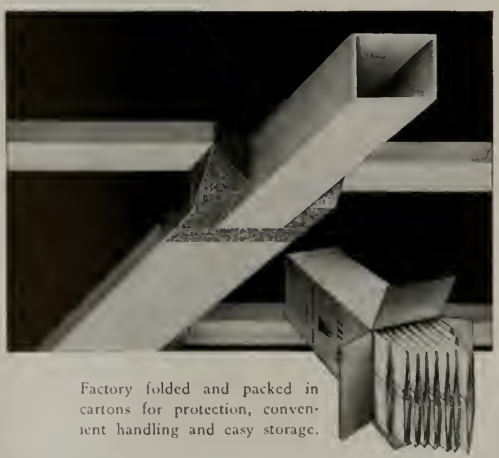

Factory folded and packed in cartons for protection, convenient handling and easy storage.

SALL MOUNTAIN COMPANY

176 W. Adams St., DEPT. A, CHICAGO, ILL.

WAR ON FUEL WASTE

Conservation of fuel is expected to be nation-wide this fall and winter. To that end, the American Society of Heating and Ventilating Engineers suggests ter ways to save fuel, as follows:

1. INSTALL STORM WINDOWS AND DOORS
   a. Application of storm windows and doors will save from 2(to 25 per cent.
      Tightly-fitting storm sash enables the maintenance o higher indoor relative humidities without window conden sation. Reduces down-draft of cold air at windows an together with increased glass surface temperature, im proves comfort of the occupant. The addition of humidit permits a reduction in dry-bulb temperature for equiva lent comfort conditions, but there is no resulting fue saving.
2. INSULATE YOUR HOME
   a. Ceiling insulation will save from 10 to 15 per cent.
   b. Wall insulation will save from 12 to 20 per cent.
      Application of insulation will increase inside wall surfac temperatures, thus improving the comfort conditions.
3. ADD WINDOW AND DOOR WEATHER STRIPPING
   a. Installation of weather stripping will save from 5 to 10 pe cent. Savings are greater when applied to loose-fittin windows and doors.
4. AVOID OVERHEATING
   a. Install thermostatic control for the maintenance of uniforn temperatures between 65 and 70 F.
   b. Wear more clothing and avoid necessity of higher tempera tures.
5. LOWER TEMPERATURES
   a. Reduce temperatures at night to about 60 F and fuel sav ings will range from 5 to 10 per cent.
   b. When away for a weekend or several days set the thermo stat at about 50 F which will prevent damage from freezing
6. DO NOT HEAT UNUSED ROOMS
   a. Turn off the heat in the garage for the duration of the war
   b. Sun rooms are generally difficult to heat; so shut off fron balance of house if possible.
   c. Keep doors tightly closed to attic spaces and unused rooms
   d. When bedroom windows are opened for sleeping, turn of the heat.
   e. Fireplace opening should be sealed and damper should b closed tightly to prevent loss of heat up chimney.
7. INSULATE HOT WATER HEATER
   a. Apply insulation to the storage hot water tank to conserv heat.
   b. A leaky hot water faucet wastes both water and fuel.
8. IMPROVE RADIATOR EFFICIENCY
   a. Remove dirt collections in the pockets of radiators an convectors.
   b. Keep heavy drapes and curtains away from radiators an the outlet grilles of convectors.
   c. Many radiators have been painted with bronze and alumi num finishes. The application of ordinary oil paints to suc radiators will improve their efficiency as much as 10 pe cent.
   d. Place a surface having a high emissivity behind each radia tor which reflects the heat to the room which normally i absorbed in the wall.
9. CHECK FURNACE COMBUSTION EFFICIENCY
   a. Removal of soot from inside surfaces of furnace or boile will save about 5 per cent. Soot accumulation clogs th passages and reduces the draft.
   b. Check chimney draft, stack temperature, and percentage o carbon dioxide in the flue gas, with available instruments.
10. RECONDITION HEATING PLANT
    Every heating plant should be surveyed and tested by a com

(Turn to Page 50)

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San ncisco and the Bay District. There may be ght fluctuation of prices in the interior and uthern part of the state. Freight cartage, least, must be added in figuring country rk.

nd—1½% amount of contract.
Government work ¾%.

ickwork—

Common, $40 to $45 per 1000 laid, (according to class of work).

Face, $90 to $100 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.00 lin. ft.

Brick Veneer on frame buildings, $1.00 sq. ft.

Common f.o.b. cars, $15.00 at yard. Cartage extra.

Face, f.o.b. cars, $40.00 to $60.00 per 1000, carload lots.

ilding Paper—

ply per 1000 ft. roll	$3.50
ply per 1000 ft. roll	5.00
ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
isalkraft, 500 ft. roll	5.00
ash cord com. No. 7	$1.20 per 100 ft.
ash cord com. No. 8	1.50 per 100 ft.
ash cord spot No. 7	1.90 per 100 ft.
ash cord spot No. 8	2.25 per 100 ft.

ash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
ash weights, $45.00 per ton.

oncrete Aggregates—

GRAVEL (all sizes) $1.45 per ton at bunker; delivered to any point in S. F. County $1.85.

	Bunker	Delivered
op sand	$1.45	$1.85
Concrete mix	1.45	1.85
Crushed rock, ¼ to ¾	1.60	2.00
Crushed rock, ¾ to 1½	1.60	2.00
Roofing gravel	1.60	2.00
City gravel	1.45	1.85
River sand	1.50	1.90

Bank sand—$1.00 per cubic yard at bunker or delivered.

ND—	Bunker	Delivered
River sand	$1.50	$1.85
apis (Nos. 2 & 4)	2.00	2.40
Olympia Nos. 1 & 2	1.80	2.20
Healdsburg plaster sand	$1.80 and $2.20	
el Monte white	50c per sack	

Common cement (all brands, paper sacks) carload lots $2.52 per bbl. f.o.b. car; delivered, $2.80; less than carloads delivered, 70c per sack.
Cash discount on carload lots, 10c a barrel, 10th Prox.; cash discount less than carload lots, 2%.

es White, laveras White, nduse White } 1 to 100 sacks, $2.00 sack, warehouse or delivery.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13/16x2¼" T&G	⅝x2" T&G	⅝x2" Sq. Ed.
Clr. Qtd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Qtd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$43.00 per M
No. 2 common	41.00 per M
Select O. P. common	46.00 per M
2x4 No. 3 form lumber	32.00 per M
1x4 No. 2 flooring VG	90.00 per M
1x4 No. 3 flooring VG	85.00 per M
1x6 No. 2 flooring VG	96.00 per M
1¼x4 and 6, No. 2 flooring	95.00 per M
Slash grain—	
1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	48.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.45 per bdle.

Plywood—Douglas Fir (add cartage)—

"Plyscord" sheathing (unsanded)	
⅜" 3-ply and 48"x96"	$39.75 per M
"Plywall" (wallboard grade)—	
¼" 3-ply 48"x96"	$43.70 per M
"Plyform" (concrete form grade)—	
⅝" 5-ply 48"x96"	$117.30 per M
Exterior Plywood Siding—	
⅜" 5-ply Fir	$132.00 per M
Redwood (Rustic) 1"x8" clear heart	$ 95.00 per M

$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $120.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot. Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, 65c per gal., in 5 gal. cans, and 55c per gal. in drums.
Raw Linseed Oil—95c gal. in light drums.
Boilad Linseed Oil—98c gal. in drums and $1.08 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11¾c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12½c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11¾c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12½c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12¾c
500 lbs. and less than 1 ton	13c
Less than 500 lb. lots	13½c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.50
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	.72
3 coats, metal lath and plaster	1.25
Keene cement on metal lath	1.30
Ceilings with ¾ hot roll channels metal lath (lathed only)	.90
Ceilings with ¾ hot roll channels metal lath plastered	1.80
Single partition ¾ channel lath 1 side (lath only	.85
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	1.70
4-inch double partition ¾ channel lath 2 sides plastered	3.30
Thermax single partitions; 1" channels; 2¼" overall partition width. Plastered both sides	2.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	3.40
3 coats over 1" Thermax nailed to one side wood studs or joists	1.25
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000.	
2.5-lb. metal lath (dipped)	.19
2.5-lb. metal lath (galvanized)	.21
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.24
¾-inch hot roll channels, $72 per ton.	
Finish plaster, $18.90 ton; in paper sacks.	
Dealer's commission, $1.00 off above quotations.	
$3.85 (rebate 10c sack).	
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15	
Lime, bulk (ton 2000 lbs.), $16.00 ton.	
Wall Board 5 ply, $50.00 per M.	
Hydrate Lime, $19.50 ton.	
Plasterers Wage Scale	$1.67 per hour
Lathers Wage Scale	1.60 per hour
Hod Carriers Wage Scale	1.40 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.5
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plate beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place
Sandstone, average Blue, $4.00. Boise $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers **Asphalt Tile**—18c to 28c per sq. ft. installed.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft
4 x 6 x 12	1.15 sq. ft
2 x 8 x 16	1.10 sq. ft
4 x 8 x 16	1.30 sq. ft

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1942 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

*6-hour day **7-hour day

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockt
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.75	* 2.00	* 1.79-1/6	* 1.75	* 1.75
BRICKLAYERS' HODCARRIERS	* 1.35	* 1.25	* 1.05	* 1.25	* 1.05	* 1.35	* 1.35	* 1.40	* 1.14
CARPENTERS	1.37½	1.37½	1.25	1.37½	1.25	1.25	1.37½	1.25	1.25
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37½
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	81¼	.81¼	80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	90
LATHERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.60	* 1.75	* 1.75	* 1.50	* 1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	** 1.37½	** 1.50	** 1.28-4/7	** 1.37½	1.25	** 1.35-5/7	** 1.42-6/7	** 1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	* 1.66-2/3	* 1.66-2/3	* 1.75	* 1.66-2/3	1.75	* 2.00	* 2.00	* 1.75	* 1.83-1
PLASTERERS' HODCARRIERS	* 1.50	* 1.45	* 1.40	* 1.40	* 1.18¾	* 1.35	* 1.75	* 1.40	* 1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	* 1.50	* 1.75	1.50	* 1.75	* 1.75	* 1.50	1.75	* 1.75	* 1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

WHAT THE ARCHITECTS ARE DOING

ARCHITECTS PLAN ESSENTIAL CONSTRUCTION

J. S. Gould, architect, 251 Kearny Street, San Francisco, has prepared plans for rebuilding a fire damaged church for the Colusa Trinity Methodist denomination.

Two hundred war workers' houses are to be built at San Pablo by J. H. Crawford, 1344 Woodland Avenue, San Carlos.

Will G. Corlett, architect, Bank of America Building, Oakland, is completing plans for a 25 classroom building in Contra Costa County for the U. S. Maritime Commission, to take care of the educational needs of the Richmond Shipbuilding Company's employees and their families.

A contract has been let for a new unit at the Kaiser Foundation Hospital in Oakland, from plans by Birge M. and David Clark of Palo Alto.

The Fred J. Early Company has been awarded a contract to build a $1,000,000 U. S. Maritime training academy in Alameda.

Additional buildings are to be erected at once at the Government flight school, St. Mary's College, from plans by H. A. Minton, architect, and L. H. Nishkian, structural engineer.

Preliminary drawings are in progress for a trailer camp at San Pablo. There will be 1500, according to the architects, Messrs. Keith O. Narbett and E. G. Bangs, 605 Market Street, San Francisco.

Alterations to some of San Francisco's school buildings to provide de-gassing stations will be made from plans by City Architect Dodge A. Reidy.

Binder and Curtis, architects of San Jose, have let contracts for a large reinforced concrete factory for the Food Machinery Corporation, 217 W. Julian Street, San Jose.

Several Junior High School units are being designed for the Chabot Terraces housing project in Solano County. Some 3,000 houses are being completed from plans by W. W. Wurster and Franklin and Kump, architects, of San Francisco. The units will include class rooms, library, cafeteria, gymnasium, auditorium, etc. Elementary school units will also be built from an appropriation exceeding $500,000. The same architects have awarded a contract to Barrett and Hilp for a major commercial building and management and maintenance structure in connection with the project.

F. H. Slocombe, 131 Monte Cresta Street, Oakland, is preparing plans for a dormitory and recreation center for Netherlands Merchant Marine crews on the Miller Estate at Orinda.

Carl F. Gromme, architect of San Rafael, has completed drawings for a two story reinforced concrete machine shop at Filbert and Sansome Streets, San Francisco, for the General Engineering and Drydock Company.

Plans for alterations to the Red Cross Building at 450 Gough Street, San Francisco, have been prepared by Vincent G. Raney, architect, 233 Post Street, San Francisco.

ARCHITECTS AND ENGINEERS

Donald B. Parkinson, architect of Los Angeles, has been commissioned Major in the Engineer Corps, reporting to Colonel Putnam.

Los Angeles Architect: Now it is "Brigadier General Henry C. Newton, Armored Force Training Center, Fort Knox, Kentucky."

Jno. B. Leonard has recently completed a very interesting professional engagement with United Engineering Co. in Alameda on the design of some of their new buildings.

J. B. Wells, vice president of the Structural Engineers Association of Northern California, is instructing a class in "Elements of Timber Design" under Federal war production training.

S. S. Gorman and A. V. Saph, Jr., have been nominated to the post of second vice presidents of San Francisco Section, American Society of Civil Engineers.

Robert J. Fisher is busy working on the Oakland Housing Project with J. J. Donovan.

BUILDERS MUST GEAR CONSTRUCTION

Builders the country over will be required to gear all future housing construction to the war program by meeting standards of design and material consumption.

"It is necessary in the national interest," the announcement reads, "that all future housing construction meet standards of design and material consumption which have been established by the War Production Board in consultation with the National Housing Agency."

The purpose of the directive is to insure that maximum amounts of housing for essential wartime needs are provided from limited visible supplies of critical materials, particularly metals and soft wood lumber.

DEGREE FOR ERNEST J. KUMP, JR.

Ernest J. Kump, Jr., whose father, the late Ernest J. Kump, was one of the most prominent architects in Fresno some years ago, and who is now practicing the profession in San Francisco as senior member of the firm of Kump and Franklin, was recently given a degree by Harvard University in recognition of meritorious work in school house design. Mr. Kump's work, which covers a wide range of subjects, including war housing, schools and commercial structures, will be featured in an early issue of this magazine.

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S. F. SECTION, A. S. C. E.

At the October 20th meeting of San Francisco Section, American Society of Civil Engineers, Professor Wm. B. Herms of the College of Agriculture, University of California, and an internationally recognized authority on medical entomology, gave an interesting talk on "Insect-transmitted Tropical Diseases Which May Affect American Military Operations." Dr. Herms stated that military forces in tropical areas such as the South Seas, the East Indian Archipelago, China, Africa and the Middle East will encounter a number of insect transmitted tropical diseases to which they are non-resistant. If these diseases are not controlled adequately, the personnel losses may be so severe as to defeat the attainment of objectives, Dr. Herms stated. The control of the vectors of these diseases is in part an engineering problem, concerning which engineers should be adequately informed.

SCHOOLS FOR WAR HOUSING

In the interest of insuring the adequate physical facilities for carrying on a program of education in war housing developments, the California School Trustees, at their annual conference in Los Angeles adopted a resolution calling for the designation of Local Housing Authorities as the responsible agency to determine in collaboration with school authorities, the need for school facilities in connection with war housing. The resolution further provides that allocation for school buildings should be made at the same time as allocation for housing.

THE "PENTAGON"

The War Department Office Building, now going up in Arlington, Va., will be known, when completed, as the "Pentagon." A five sided structure nearly a mile around with each exterior wall 921.6 feet long and a pentagon shaped inner court with each side 360.8 feet long will be three and four stories high. Besides its 4,000,000 square feet of office space, there is also 600,000 square feet of storage area provided. A lagoon is being dredged to permit water delivery of aggregates. Concrete mixing is done in transit. The building when completed will have cost about $50,000,000.

STUDENTS PLAN TRANSPORTATION CENTER

A city planning course in which students will plan a transportation center for the town of Syosset, Long Island, under the guidance of the engineering, architecture, and social science faculties has started at Cooper Union, it is announced by Dr. Edwin S. Burdeli, director.

Engineering and architectural students will pool their knowledge in an attempt to solve the problem created by an influx of war workers into Syosset, where rail, bus, and car lines are widely separated.

POWER AND IRRIGATION PROJECTS HIT

Following its policy of curtailing the flow of critical materials to construction projects, the War Production Board has revoked priority ratings previously granted to seven power and irrigation projects in the west.

Six of the projects are sponsored by U. S. Bureau of Reclamation. The seventh involves construction equipment for a section of the Grand Coulee Dam.

Builders are prohibited from continuing construction or installation on the projects. Exceptions are made, however, for construction solely for the purpose of safety or health or to avoid undue damage to or deterioration of materials.

The projects affected follow:

Davis Dam—Located 30 miles west of Kingman, Arizona, and 40 miles south of Boulder Dam on the Colorado River.

Colorado Big Thompson project which includes the Green Mountain and Granby Dams on the western side of the Continental Divide, a 13-mile tunnel to the east and dams and power plants at Colorado Big Thompson, Estes Park and Mary's Lake, Colorado.

Keswick Dam—Located on the Sacramento River, 8 miles below Shasta Dam.

Anderson Ranch project—Located on the Payette River, approximately 30 miles east and 20 miles north of Boise, Idaho.

Shasta Dam—Located on the Sacramento River, California.

Grand Coulee Dam—Located on Columbia River, Washington. Two revocation orders apply to projects associated with Grand Coulee.

WASHINGTON TODAY AND YESTERDAY

If Washington, Jefferson and L'Enfant could rise from their graves and see what has become of their fond dream of the Federal City, Washington, D. C., they would lie down again with open-mouth astonishment in eternal sleep. In their day there were no rapid transportation systems, there was not even a steam railway locomotive!

Today Washington is crowded to suffocation and the Union Railway Station of about 1900 accommodates, according to the Associatoin of American Railroads, a daily flow of from 70,000 to 100,000 people. Within the past 18 months the ticket windows have increased from 15 to 51; trunk telephone lines from 30 to 50; information clerks from 69 to 266.

S. F. ARCHITECTS' AUXILIARY

Members of the San Francisco Auxiliary to the State Association of California Architects met November 4 at Women's City Club, following luncheon.

Layettes to be donated to the Navy Relief Society were assembled under the direction of Mrs. H. J. Leason, war work chairman of the day, and Mrs. A. Appleton, director of war work.

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WAR ON FUEL WASTE

(Continued from Page 44)

petent heating engineer or contractor.

a. If a radiator system:
   (1) Inspect insulation on the boiler.
   (2) Remove all pipe pockets and correct pitch for good circulation.
   (3) Check pipe insulation for defects.
   (4) Clean and repair air valves, and radiator traps and valves.
   (5) Purge the air from radiators.

b. If a warm air furnace system:
   (1) Examine air filter—clean or replace.
   (2) Make sure all air supply and return grilles are open and unobstructed.
   (3) Eliminate the introduction of any outside air and recirculate 100 per cent of the indoor air.

NOTE: Fuel savings are not necessarily cumulative but will often exceed 60 per cent in practice if all precautions outlined are adopted.

CREDIT PROBLEMS IN A WAR ECONOMY

Roy A. Foulke, manager of the Analytical Report Division of Dun & Bradstreet, warns the grantor of credit today of the necessity of frequent analysis of the risks in a period of rapid change. Speaking of the prospects of the concern making non-defense products Mr. Foulke says: "Two situations are affecting those manufacturers that have obtained no defense or war contracts. In the first situation is the typical manufacturer whose operations have been materially reduced because the available supply of his primary raw material has been substantially cut by priorities, such as manufacturers of aluminum cooking utensils, metal furniture and equipment, washing machines, electric ironers."

"In the second situation is the manufacturer that is able to obtain sufficient quantities of all raw materials except one vital ingredient, such as a manufacturer of varnish that might have plenty of petroleum solvents but no synthetic resins, plumbers who have difficulty in obtaining one-half inch brass pipe, manufacturers of upholstered furniture that need metal springs, or manufacturers of laundry supplies that are being restricted in their purchases of chlorine. Here is a vital problem of inventory unbalance which has been expanding in recent months and which will become more fundamental as our war economy continues to intensify. To analyze these situations the credit manager of a prospective mercantile creditor must become increasingly familiar with the operating problems of customers, problems which will continue to become more acute as greater proportions of raw materials go into the production of war supplies and equipment."

Referring to the financial affairs of the munition maker, shipbuilder, and the entire category of war manufacture, Mr. Foulke points out: "Financial statements of concerns engaged wholly, or for the most part in the production of war equipment and supplies, and particularly of those in highly specialized lines, usually show heavy liabilities. Such situations cannot

be interpreted strictly in accordance with standards of analysis applicable under normal conditions. In arriving at a conclusion regarding the stability of such risks, favorable operating and performance records over a period of years may offset what in more normal conditions might be considered an unbalanced financial position." Foulke summarizes the elements of the war risk covering five points on which information is essential:

"1. A segregation of net sales to Government agencies from other net sales, or in the case of sub-contractors, sub-suppliers, sub-manufacturers, or sub-builders, a segregation of net sales to primary contractors on defense and war orders from other net sales.
2. A segregation of Government receivables from other receivables, or in the case of sub-contractors, sub-suppliers, sub-manufacturers, or sub-builders, a segregation of primary contractor receivables on defense and war orders from other receivables.
3. The amount and the nature of unfilled defense and war contracts on hand on the statement date.
4. A description of all arrangements in effect to finance necessary plant expansion, and increased defense and war production.
5. A clear understanding of the extent of management familiarity with the products to be produced, of the skill and knowledge of the labor, and of the necessary equipment to fulfill specific requirements of Army and Navy contracts."

MUST REGISTER USED MACHINERY

Owners of used construction equipment will be required to register their equipment with the War Production Board so that an inventory, necessary in the war program, can be made.

Under the terms of limitation order L-196, any person who owns construction machinery must file within 30 days on WPB form 1159 a report showing the type and location of the equipment in his possession.

The order also provides that WPB form 1333 must be used to report any change of status of used construction equipment, such as movement from one location to another, change of ownership, or a change from being used to its becoming idle.

In undertaking the inventory, WPB believes that essential users may be able to negotiate for the purchase or lease of used equipment and thus permit almost all new equipment to be delivered for war work.

The order affects all owners of used equipment, but has no bearing on manufacturers of new equipment.

It is estimated that there are approximately 500,000 pieces of used equipment in this country, much of which is idle because of the absence of a co-ordinated market place for buyers, sellers, lessors and lessees. The inventory is intended to clear up this situation.

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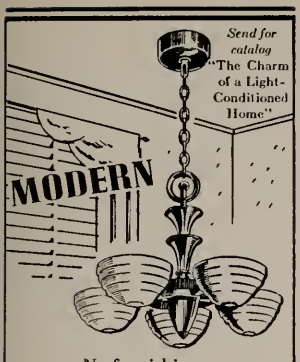

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REMODEL AND REPAIR WORK

Remodeling to house war workers, repairs to maintain property, and installations to conserve heat and fuel are three types of work for which the FHA is insuring loans during wartime under the Title I program, according to Abner H. Ferguson, Federal Housing Commissioner.

"Because these three types of work have an important place in the war effort, they are exempted from some of today's restrictions on materials and credit," Mr. Ferguson said. "Creating suitable housing for war workers, conserving fuel, and maintaining the nation's $80,000,000,000 property investment, are the present objectives of loans made on the FHA Title I Plan."

FHA has prepared the following questions and answers for the use of property owners who wish to remodel and repair under wartime conditions:

How much money can be borrowed for repairs and maintenance work?

How soon must these loans be paid?

Repair loans are subject to installment credit rules of the Federal Reserve System and those under $1,500 must be repaid within 12 months. An exception has been made for essential emergency repairs to allow up to three years for repayment.

What sort of repair work is permissible?

Work such as painting, papering, repairs to plumbing and roofing or any similar repairs that are necessary to keep property in good working condition. Luxury repairs or improvements merely to beautify a home are not approved. Repairs also must be of a nature that does not change the structural design of a building.

Can repairs of this type be made anywhere in the country ?

Yes.

What about loans for improvements that will reduce fuel consumption, such as conversion of oil burners to coal units, insulation, storm doors and windows and weatherstripping?

FHA loans may be obtained to finance such conversions and installations. Loans for such purposes have been exempted from the Federal Reserve Board's consumer credit regu-

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lations and may run for as long as three years.

Must the owner obtain permission from WPB before undertaking such fuel conservation measures?

No.

What about loans for remodeling to provide additional living quarters?

FHA loans for this purpose are available in amounts up to $5,000 for as long as seven years. They are to be paid off in monthly installments.

What are the conditions under which a remodeling loan will be granted?

To qualify for a loan, a remodeling project must be located in an area where the housing situation for war workers is critical, and must be made with a view to providing living accommodations for war workers. Applicants for loans must certify to the bank or other private lending institution that for 60 days after his project is completed he will give first call for occupancy to war workers.

Who are considered war workers?

Members of the armed forces, persons employed in plants producing war materials, or employees of agencies of the Government that are engaged in war work.

What is a critical war housing area?

It is an area designated by the President as having insufficient housing accommodations for war workers employed nearby.

What type of construction can be undertaken with a remodeling loan?

Attics, basements and other unfinished spaces may be converted into finished rooms or apartments and additions and alterations may be made to existing buildings. A building not used as a dwelling may be remodeled into a single or multi-family house.

Must an owner obtain permission from the War Production Board for remodeling or repair work?

WPB authorization is necessary in a remodeling project unless the total cost of the improvement is less than $200. The WPB must also give priority assistance where the purchase of critical materials is required. Maintenance work and essential repairs that do not change structural design are permitted without WPB authori-

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Before me, a notary public in and for the state and county aforesaid, personally appeared L. B. Penhorwood, who, having been duly sworn according to law, deposes and says that she is the Business Manager of The Architect and Engineer, and that the following is to the best of her knowledge and belief, a true statement of the ownership, management (if daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, The Architect and Engineer, Inc., 68 Post St., San Francisco, Calif.

Editor, Fred W. Jones, 68 Post St., San Francisco, Calif.

Managing Editor—None.

Business Manager, L. B. Penhorwood, 68 Post St., San Francisco, Calif.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

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L. B. Penhorwood, 68 Post St., San Francisco, Calif.

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3. That the known bondholders, mortgagees, and other security holders owning or holding one per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) E. J. Cardinal, 942 Howard St., San Francisco, Calif.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation, for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is. (This information is required from daily publications only.)

L. B. Penhorwood, Business Mgr.

Sworn to and subscribed before me the 28th day of September, 1942.

(Seal) CHAS. F. DUISENBERG

Notary Public in and for the City and County of San Francisco, Calif.

(My commission expires May 22, 1945.)

zation. Applications for WPB preference ratings and authorization to begin construction can be filed with local offices of FHA.

Why does Government encourage remodeling projects for war workers?

Because the President has said that existing structures are being counted upon to absorb a large proportion of the 1,600,000 war workers who need housing. Remodeling requires a much smaller amount of critical materials than new construction.

Where can repair and remodeling loans be obtained?

The credit facilities of more than 5,000 banks and other lending institutions are available under FHA's lending program. Any FHA office and almost any local bank or financial house can provide information about loans.

A SIX-HOUR DEFENSE HOME

"American miracle" is the way Mary Davis Gillies describes the combination of a prefabricated house and demountable furniture that permits a house to be put up in three hours and completely furnished in three more. In "McCall's Magazine" for November she tells how the housing of Norfolk shipyard workers foreshadows the day when home will move with the family.

Although prefabricated houses will be available only to defense workers during war years, the demountable furniture, designed by Dan Cooper, is on sale in stores. Charming, inexpensive, and using no critical materials, it is easy to assemble—and just as easy to take apart, pack flat, and load into the back of the family car on moving day.

CEMENT DISPERSION

A Cleveland, Ohio, company has recently placed on the market a cement dispersing air entraining agent known as HP-7 which, when added to a paving mix, is claimed to improve all the essential qualities of concrete —transverse strength, resistance to wear, freedom from scaling. Furthermore, it appears that this is accomplished with little or no increase in cost, and in some cases with an actual reduction.

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HP-7 is essentially a combination of an air-incorporating agent (sodium lauryl sulphate) with a cement-dispersing agent (a derivative of lignin sulphonic acid).

WOOD SIGNS REPLACE STEEL

For the duration, there will be no more steel signs directing and warning motorists along the highways and byways of California.

Cooperating with the government's request to conserve critical materials, the markers posted by the sign-posting department of the Division of Highways, through the wartime emergency, will be composed of pressed hardwood.

Reflectorized signs will be made of the same material, beaded to reflect headlights. The first beaded placards were posted recently along the Southern California coastline designating authorized dim-out zones, replacing the emergency heavy cardboard markers.

Pre-war signs were made of porcelain enamel fused into steel for indefinite lasting qualities. The substitute pressed wood signs, treated and painted for preservation, are expected to prove durable for a number of years.

PREFABRICATED HOUSING

On the Napa Road about two miles out of Vallejo 3,000 prefabricated houses for war workers are nearing completion.

At Norfolk Navy Yard about 5,000 preassembled and prefabricated homes are being built in five months to relieve a housing shortage. All industry watches such wartime tests as guides to the post-war possibilities of prefabricated home building.

Transplacement of 186 houses at Indianhead, Md., to Suitland, Md., will attract national attention, and will be a publicity break for the industry, as it will settle the question of movability for all time.

Architects and engineers are saying that prefabrication must be a valid innovation or it would have been killed off long ago by unsympathetic government treatment. They add that it should go places under commercial promotion after Federal controls are removed.

Site and factory fabrication are methods still in the making and demands of location, union philosophy, social and political attitudes will have much to do with the industry's future.

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GETTING DOWN TO BRASS TACKS ABOUT LIGHTING YOUR HOME

Getting down to brass tacks about lighting your home, don't forget that during the Fall and Winter months you have the greatest need for good light. Your family will spend more time indoors than at any other season. Early twilights, overcast days, and late dawns, increase the demands on electric lighting.

Take inventory of the lighting of your home now, and let your family enjoy the benefits of good light during these coming months when they will need it most.

Children of school age have home studying they MUST do. Eyes, young and old, need the protection of plenty of good quality light during the long season when they are so constantly under strain.

After you have taken your lighting inventory, replace old lamps that are not producing the quality and amount of light you should be getting from electricity you are paying for.

Replace old bulbs with the same size that came with the fixture. Fixtures are designed to operate efficiently with a certain size bulb, and a different size destroys the efficiency of the fixture.

Our FREE booklet gives pictures and suggestions about lighting your home to modern standards. It will help you light your home right. Send for it today.

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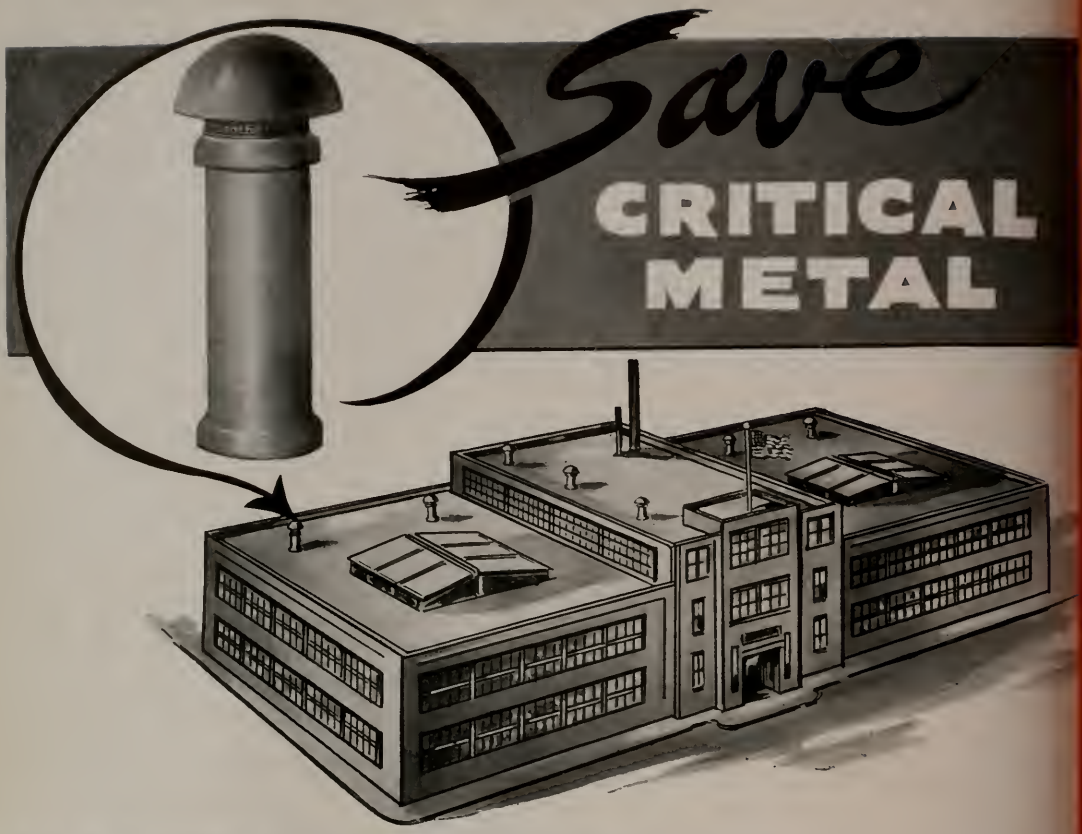

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PLASTER – *on the march*

A continuous 8 foot wall 50 miles long... that's the vast amount of Empire Gypsum Plaster required to cover the walls and ceilings of the first section of 802 low rent units in Aliso Village, largest development in the war housing program of Los Angeles City Housing Authority. On plaster jobs, large or small, to make sure of uniform quality in every batch make certain the dependable name "Empire" or "Standard" is on every sack.

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ARCHITECT AND ENGINEER

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DIM-OUT CASUALTY

THE current issue of *Architect and Engineer* was edited from a hospital bed where the editor sought surcease from pain due to the combination of a fog-dimmed morning and a flight of slippery concrete steps.

Mr. Jones' engineer visitors have been fascinated by the contraption that has been pulling out his kinks—*i.e.*, a traction arrangement on one leg, uncomfortable but effective. Fortunate, indeed, for Editor Jones, there were no broken bones.

NEXT MONTH

SOME more housing is in store for *Architect and Engineer* readers next month. Latest project to be completed by the Los Angeles Housing Authority, is Aliso Village, tenth and largest low rent housing development in the Southland city. Eight hundred and two dwelling units are provided besides an Administration building and community hall.

Another January feature will be a contribution by Jan Reiner, architectural designer and lecturer, formerly in the office of W. W. Wurster, on "Building Materials, the Grammar of Architecture," which will be illustrated with drawings by the author, including a proposed Lake Front Development in Chicago. Reiner predicts a prefabricated housing era after the war.

HOLIDAY GREETINGS

In the one corner of the world, where the guiding light of peace still beckons to mankind, we pause and look back with joy to the many new friendships formed and the old ones growing stronger with each passing year. As we hopefully look forward to the future, we are grateful for your friendly patronage. To folks like you, who have in so many ways made our journey through the past a pleasant one, we pledge anew our sincere efforts to merit your continued patronage.

May you have a happy and prosperous 1943.

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RUNNING FIRE — By MARK DANIELS, A.I.A.

• *BE AMBIDEXTROUS*

Washington continues to howl that we are not war conscious, that we do not take the war seriously, that we don't realize there is a war going on. Well, why not? Most of us have one track minds, and said track is creaking under the demands that we pay our debts, buy bonds, buy war saving stamps, pay redoubled taxes, double our contributions to the Community Chest, raise scrap, pay a whale of an income tax, turn over our pennies, turn in rubber and turn out our pockets and, in short, do a hundred other things at once that even an ambidextrous juggler couldn't do.

The trouble is that the government is asking us to do too many things at once. We all have been trying to pat our heads and rub our stomachs at the same time. Now most of us can only rub our stomachs. War? That's nothing. Look what we gotta do!

• *NEW ARCHITECTS' MAGAZINE*

The third issue of the "TASK MAGAZINE" is out. The publishers, (Robinson Hall, Cambridge, Mass.) state that they take no advertising and depend solely on subscriptions for support — and possible donations. There must be a Daddy somewhere because some of our largest architectural journals, with large advertising sections, are deep in the red. Whether the magazine is published as paid propaganda or not is difficult to determine from one issue. This one is all Russian. It drips "SOVIET" from every page. Next month's copy may be quite different.

Mr. Hans Blumenfield contributes a good article entitled "Regional and City Planning in the Soviet Union," but the leading article is "The Soviet Architect" by Mr. (or perhaps Herr) Hannes Meyer. In it Mr. Meyer gives an enlightening outline of the freedom from financial problems involved in the planning of the architect; how such costs are not pyramided on the project; how the architect, the artist and the artisan are just one big happy family, in the Soviet. In fact, I felt that he could have stuck closer to his title and said more about the Architect and less about the Soviet. However, the article is excellent and very informative. I have seen no publication recently which gives anything like TASK'S picture of architecture in the Soviet Union. For those who dote on the Modern it is a find.

• *MAGIC LETTERS*

The following is not a code cipher but the letters are magic never-the-less. They are the initials of some, but by no means all, of the bureaus and offices of the Federal Government in Washington.

A.D.B., W.P.B., C.A.A., M.E.W., F.S.A., C.I.A.A., B.E.W., I.M.M., C.O.M., B.R., B.P., B.F., J.S.M., O.P.A., T., C.P.C., O.N.I., P.O., S.C., S.P., M.I.D., C.A.N., C.C.C., F.B.I., M.C., C.O.I., D.L., E.D., I.N.T., F.C.C., F.R., L.C., F.T.C., O.P.M.

Do you know what they mean? Neither do I, but to the chief of each they are more important than U.S.A.

• *ADVANCING CIVILIZATION*

Predicated upon the American, and perhaps other conceptions of civilization, this war has advanced us about a hundred years. Products that might not have been produced in a century of the ordinary run of development are now turned out in production. Others that are on the borderland of discovery have been put into practical work and use. Medicine, remedies and cures have been brought to uses undreamed of a couple of years ago. Even poor, neglected malaria, which has been the curse of millions for many years, is at least receiving close study of the great medical scientists. The sulfa drugs alone bid fair to revolutionize one branch of medicine. The treatment of aviators has developed an entirely new department in the medical profession. Dr. Herbert Evans, head of the biological research laboratories at the University of California, is working for the isolation of a substance that will enable aviators to remain for some time at great altitudes without relying on the oxygen tank.

New uses for old metals, new metals for old uses and new uses for new metals are being discovered by the score by the metalurgical chemists. Magnesium, tungsten, chromium and telurium are now being put to unheard of uses. The field of plastics, according to the authorities, has only been scratched, yet the material is now being used in almost every engine of war the government produces. It is being used structurally in buildings and ships; for screws, nuts, bolts and rivets; in gadgets and guns; in ash trays and aeroplanes.

We were lolling along, paying tribute to others for the use or rubber which we wouldn't bother to produce. Now we are beginning to produce a synthetic rubber from our own resources that will set us free of this penalty on our extravagance. We are mastering the air to an extent far beyond the knowledge of most people who even go so far as to call themselves authorities on aeronautics. Hundreds of other discoveries have been brought out by this last two years of the sudden rush of the American creative and inventive genius and it was all caused by war. All of these things would, in all probability, have been developed eventually, in a hundred years or so. It took a war to do it in a decade.

• *ONE GOOD PLACE*

Our boys are fighting in at least one place where it is good to be in winter. That place is northern Algeria and Tunisia. I once fought hard to get there and harder to stay.

From the few remains of old Carthage in Tunisia through Bone in eastern Algeria to Oran at the western end, the south shore of the Mediterranean is a succession of historic places, picturesque spots and wierd stretches abandoned to Berbers and nomadic Arabs. Before this war Algeria was becoming the mecca of winter resort seekers. Many of them crossed the Atlas Mountains to play roulette and baccarat in Biskra, the home of Hitchens' "Garden of Allah." In Algiers, about the center of the north shore of Algeria, there are climate, life, gardens and historical background enough to keep one interested for a period of two punic wars. The botanic gardens there are extensive and famous. The same old stone piers where the Barbarossa Brothers once anchored are still there and still used.

(Turn to Page 6)

NATIVITY

(Homage to Filippo Lippi)

by Jean Charlot

This painting by the Paris-born artist is one of many oils whose themes range from the religious to portrait studies and the depiction of Mexican rural life. Exhibition at de Young's is one of the largest and most comprehensive ever assembled of the work of Jean Charlot, one of the leading exponents of the modern Mexican movement.

JEAN CHARLOT'S ART NOW AT DE YOUNG MUSEUM

The De Young Museum, Golden Gate Park, is now offering its outstanding one-man exhibition, oils and drawings by the Paris-born artist and present American citizen, Jean Charlot, who for the past two decades has been an active member of the Mexican art scene.

Mr. Charlot, recognized as one of the world's finest muralists, will be remembered by local museumgoers for his brilliant talk on Pre-Columbian Art during that large exhibition held this summer. Charlot's fame does not lie alone in his murals now adorning the walls of the National Preparatory School and the Ministry of Education in Mexico, or the recently completed fresco for the University of Georgia. As an artist, he is adept at woodcarving and wood engraving, color lithography, gouache, oil and the various drawing mediums. As an archaeologist, he participated in the Carnegie excavations in Yucatan; as writer, he was at one time art editor of Mexican Folkways, has collaborated on numerous publications on Mexican art and is author of the book, "Art from the Mayans to Disney;" as teacher and lecturer, he has appeared on the faculties of the Students' Art League, New York, Chouinard School, Los Angeles, and the University of Georgia. This past summer he acted as guest instructor at the University of California.

Charlot's works are included in the Rockefeller Collection, the Phillips Memorial Gallery, the Museum of Modern Art and in galleries in Italy, France and Mexico. He has had one-man exhibits in New York, Canada, Los Angeles and is now excellently represented in San Francisco's park museum by a large showing which contains some of his latest oil paintings, along with detail sketches and studies for his most recent mural.

In these days when the trend is toward our friendly neighbors to the south, no better way of "getting acquainted" could be found than by examining and enjoying the art of Jean Charlot, one of the most vital contributors to the modern Mexican movement.

INTERIOR DESIGNS EXHIBITED AT THE DE YOUNG THIS MONTH

Continuing in its efforts to "keep them creating," even though temporaily thwarted by the war, the De Young Museum has been showing the latest interior designs by an artist in the service, in this case, Private Bob Brown, U.C.L.A. graduate and practicing decorator in the southern city for the past six years.

These interiors were recorded by one of the nation's finest interior photographers, Maynard Parker, and represent varied examples of Brown's work, including "budget jobs" in which it was necessary to achieve a comfortable and gracious effect with a very small bankroll; "re-modeled" rooms where old furniture and furnishings have been used again, and color, texture and good tailoring were "called upon" to completely re-style a house; and among the many Southern California homes, two which were designed and furnished by and for the decorator himself.

All in all, Private Bob Brown continues to uphold the standards set at the De Young by the earlier shows of his "buddies," Privates Corrado Cagli, Yeisley and Hammer.

IN AN EVER CHANGING WORLD

Another new exhibition is the collection of watercolors and gouaches by Ralph Cornell Siegle who is well known on this coast for his unique talent in the field of marionette theatre.

From the American Federation of Arts comes a selection of color prints of paintings by famous masters on the theme, Madonnas, which, with the many oils by Charlot on religious themes, will help create the "holiday spirit" at the De Young this year.

THE "EXPANDED" AMATEUR ART SHOW REMAINS UP

The very popular amateur art show, Do You Pant to Paint? remains on view at the De Young, and new paintings and drawings have been added to the first group which went on exhibit during November. War Bond prizes have now been awarded to John Sweet for his small Still Life in oil, to Celia Insley for her watercolor, From the Hill, to Wilder Bentley for his color monotype, Lady of the Restoration, and to Jane Muir for her humorous terra cotta figure, Obese. Honorable mentions went to Maya Nafziger, Sgt. William O'Connor, Robert Muir, Fenner Fuller and Ralph Bertucelli.

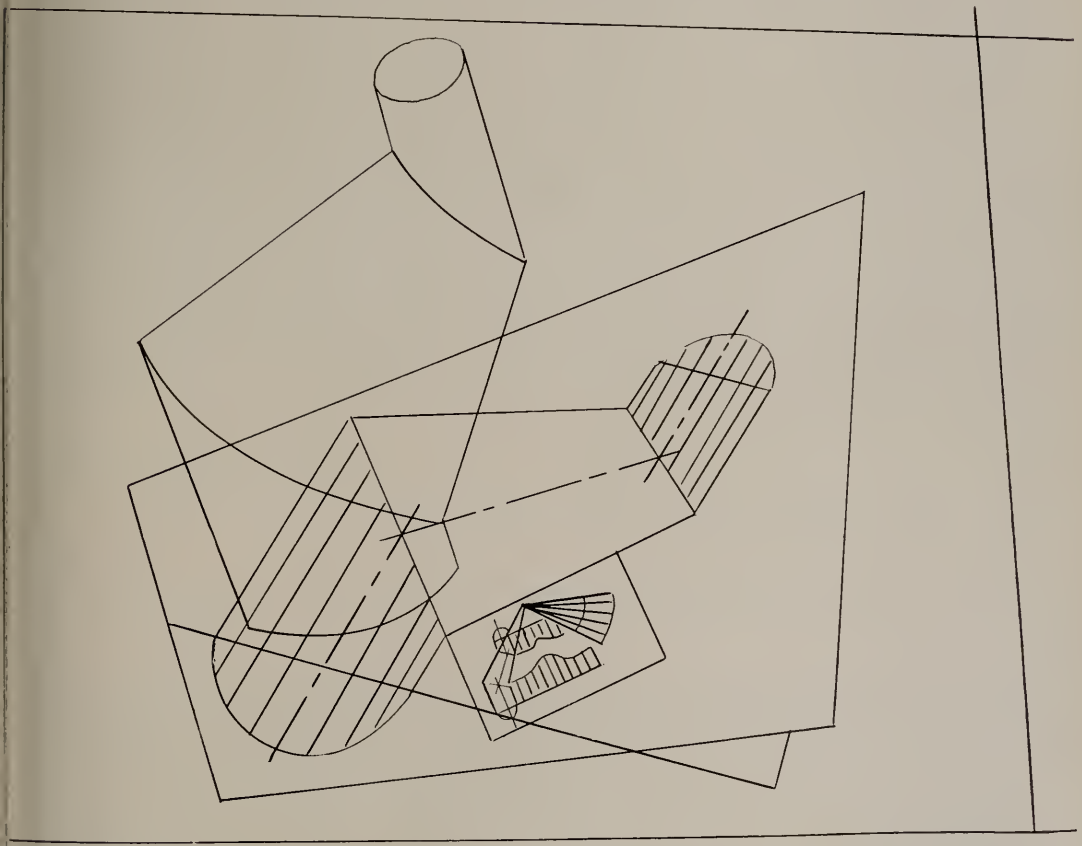
Considering that each contributor to the show is strictly a "non-professional," the exhibit has brought forth some excellent works showing a great deal of imagination and ingenuity, and it is hoped that, due to the success of this first exhibition of its kind, other like shows will follow in the future.

"WARTIME HOUSING" EXHIBIT AT S. F. MUSEUM OF ART

Rarely does a museum exhibition meet so directly a crisis in community life as in the show "Wartime Housing," which is on view at the San Francisco Museum of Art through December 27. Since Bay Region plants have attracted populations which demand facilities far in excess of present accommodations, plans must be rushed to meet the needs of the new workers and their families.

Failure of these plans would be nothing short of catastrophic. One recalls Ben Franklin's verse:

For want of a nail the shoe was lost.
For want of a shoe the horse was lost.



GRAM OF PIPE SECTION — **CLAIRE FALKENSTEIN**

RST PRIZE: EXHIBITION OF THE SAN FRANCISCO SOCIETY OF WOMEN ARTISTS

arded to Claire Falkenstein for a three-dimensional model of this diagram, entered in the division: "Art to Assist the War Program" the San Francisco Museum of Art.

BE BRIGHT - GIVE *Light*

GOOD LIGHT! It means happiness, cheer, joy, gaiety, color, warmth, cleanliness—a general sense of well-being.

Especially does light symbolize the spirit of the holiday season. There has never been a time when the gift of a lamp was so universally acceptable.

Each man on your gift list will be sincerely grateful for a real reading lamp or a desk lamp for home or office. If he happens to be a stamp collector, so much the better, he will be doubly delighted with a good light.

Your best friend will remember your gift with gratitude every time she turns on the pair of dressing table lamps or the lovely modern crystal and chromium table lamp.

The older folks will bless your thoughtfulness in providing light that makes their lives pleasanter the year 'round.

You may be changing the whole course of a child's life when you give him a lamp. His young eyes need the best of light.

There's a lamp for every gift list and for every gift budget, with prices lower than you can believe.

If you want to be sure your gift won't be "tucked away" and forgotten, if you want to give a really friendly gift—give a lamp.

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For want of a horse the rider was lost.
For want of a rider the battle was lost.
For want of a battle the kingdom was lost.
And all for want of a horseshoe nail.
And tries again:
For want of housing the worker was lost.
For want of the worker production was lost, etc.

Furthermore, there is the post-war period to consider. To avert disasters of bad housing, to prevent the conversion of new communities into post-war slums and ghost towns, plans must be made to the last detail before being put into operation.

This exhibition presents tangible evidence of houses and plans which have already been executed under the supervision of the country's best architects and designers. Models and enlarged photographs show the effects of bad plans alongside of well solved schemes. Step by step the necessary cooperation of many specialists in a single enterprise is visually demonstrated. Finally, a section of the show points the way for individuals to take part in effecting good housing and decent living for workers.

Ernest J. Kump, architect, of San Francisco, discussed the exhibition in the galleries on Sunday afternoon, December 20, at 3:00 o'clock. Since the show, which was organized by the Museum of Modern Art in New York, confines itself to points of a general nature, Mr. Kump applied these points to local conditions in particular.

RUNNING FIRE

(Continued from Page 3)

A short run over the northern range takes you through the high plateaus, the land of plenty, dotted with ruins of old Roman cities where forums, amphitheatres, temples and commemorative arches in stone and marble still stand. If you haven't time to see Timgad and Djemila run a few miles west from Algiers to Tepaza and the museum at Cherchell where are statues of the gods that were sculptured when the Roman Empire was at its height. Yes, there are food, wines, beauty and climate in plenty where these boys are fighting and if we must fight here is one good place to do it.

• *RESULTS OF WAR*

Pawn brokers are thriving.

Gambling is tolerated in S. F. as in the old gold rush days.

The invisible menders are swamped with work.

The tax collectors have driven the pickpockets out of business.

Belts are returning. You can't take a hitch in suspenders.

• *PEGS AND HOLES*

A year ago a high ranking officer of the army told me that this time the war department was going to put the square pegs in the square holes and the round pegs in the round holes. From my observation of what they have accomplished along this line I am convinced that if one of the scientific bureaus should enroll Mr. Einstein on their staff they would put him at translating foreign languages.

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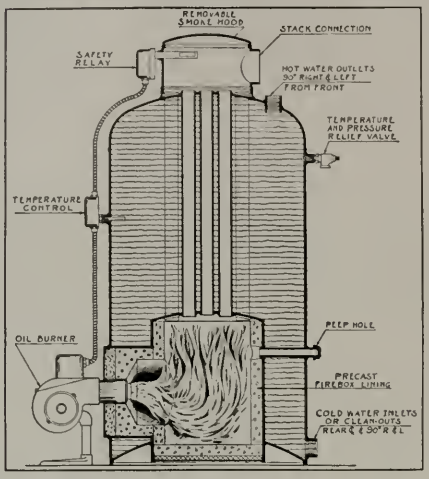

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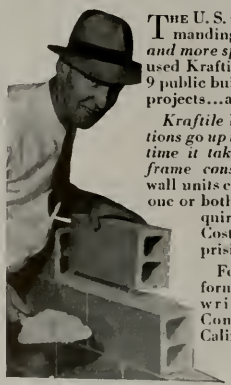
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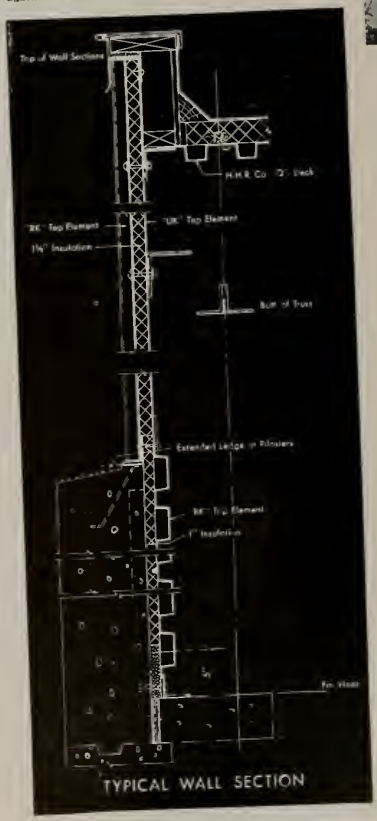

TYPICAL WALL SECTION

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UNITED STATES STEEL

GLASS-ENCLOSED STAIRWAY, STERN HALL, NEW GIRLS' DORMITORY, UNIVERSITY OF CALIFORNIA, BERKELEY
CORBETT & MacMURRAY AND W. W. WURSTER, ARCHITECTS, ASSOCIATED

Staff Photos by Sally Carrighar

WINGS OF STUDENTS' ROOMS WITH BALCONIES FOR SUN-BATHING

A WOMAN'S IMPRESSION OF THE NEW GIRLS' DORMITORY AT BERKELEY

By SALLY CARRIGHAR

"Don't refer to the social hall as the living-room," said the resident director, leading the way in the new girls' dormitory at the University of California, Berkeley. "It is the drawing-room." And a moment later:

"One reporter spoke of these black and white fur rugs as being cow-hide. We wish you would call them giant pandas."

But the grand terminology wasn't necessary to make the dormitory impressive. Already the visitor was trying to imagine a college experience lived in a world's-fair setting. Understatement in the naming of things might be an advantage. It might help to restore a balance between the stimulation of the site, the structure, and the furnishings, and the quiet reality of trying to learn some thousands of new facts every week.

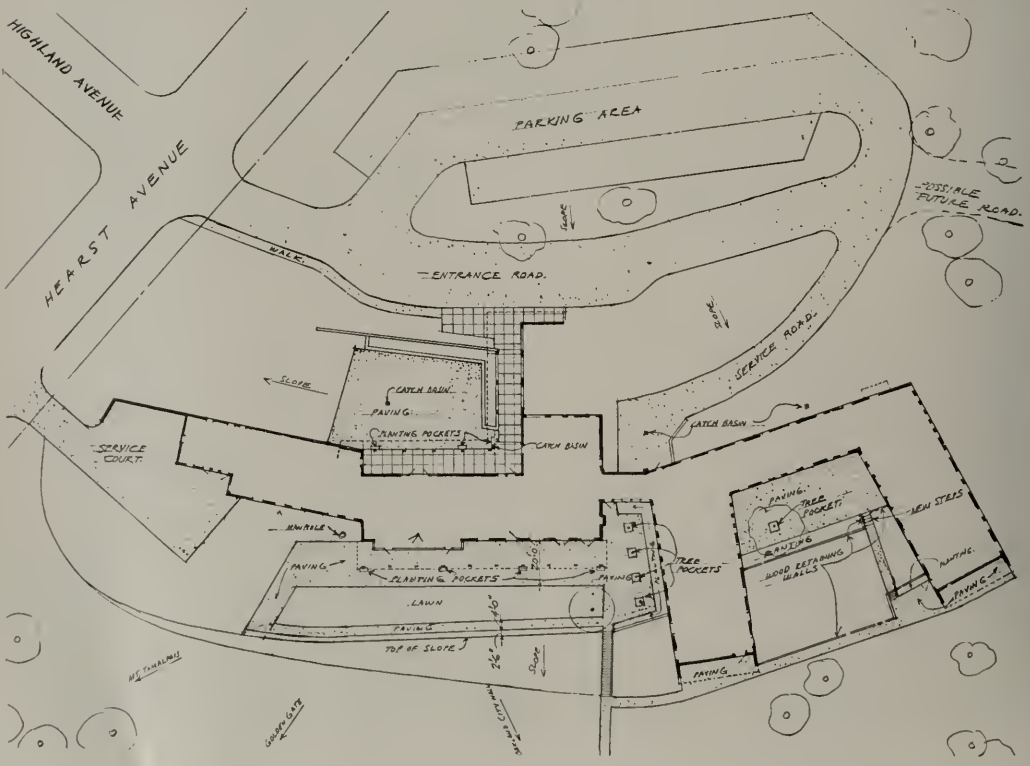
Perhaps the dramatic quality of the dormitory reflects the architects' pleasure in the creative possibilities of the project. One can guess that it was a job in which material re-

wards seemed relatively unimportant — such fun it would be to design the first girls' dormitory in the world's largest university, the home for attractive young people during one of the happiest periods of their lives. The site was one of almost unsurpassable beauty, and even the practical aspects were benign. For the grant was generous—more than $285,000, and that donated by a single individual, Mrs. Sigmund Stern, whose tastes are far from rigid. No doubt plenty of difficulties arose as the plans were carried out, but the first impression as one enters Stern Hall is that somebody had a glorious time producing this.

Because the building is a first in several respects, it is being discussed from every angle and the architects may come in for some criticism that doesn't belong to them. They, for instance, may not be responsible for the fact that only 90 girls have been given exclusive use of more than four campus acres—and such acres!—tree-shaded, with a view of untouched hillsides in one direction and the Golden Gate in the other. Not many such perfect sites remain around the campus.

The dormitory cost a little more than $3,000 per occupant. Although that is not high compared with dormitory-costs in private universities, the University of California is largely tax-supported, and its housing problem is acute. Girls who do not live in sorority houses must distribute themselves in boarding houses off the campus. To remove 90 of these girls and place them in a giant panda atmosphere seems undemocratic. The girls were not even chosen by lot or by order of application, a fact which isn't architecture but shows an attitude that may have influenced the architecture.

Given the superb site and comparatively large appropriation, the architects made a commendably practical start. They sent a questionnaire to every woman's college in the United States, asking about dormitory room-sizes, study halls, bathroom and laundry facilities, kitchen and dining-room equipment, and many other things. If already they visualized



CENTRAL SECTION OF DORMITORY, CONTAINING SOCIAL ROOMS

SERVICE WING AT HEARST STREET END OF DORMITORY

MAIN ENTRANCE IS ALONG ONE SIDE OF PATIO

PATIO FACES NORTH BUT DETAILS CAPTURE SUNLIGHT

THE DORMITORY HAS A BACKDROP OF HILLSIDE AND TREES

their black floors, tin lighting fixtures and tub-sized ash trays, they also were determined to make the building function well.

DORMITORY HAS PRACTICAL FEATURES

The most casual visit shows that the finished dormitory does have strikingly practical arrangements. For example, the cold rooms for food storage are so large and efficient that supplies can be bought in very economical quantities. Whole slaughtered animals can be hung. Looking towards the changes that a war might bring, the kitchen was designed for quick conversion to self-help.

Bathrooms are models of convenience. In addition to an abundance of plumbing installations, there is a ventilated locker for every girl. A laundry on each corridor is something the girls will appreciate, as are also the balconies with solid metal balustrades, for sunbathing. Even such details as a full-length mirror on each corridor have not been overlooked.

The maids complain that they have to do too much walking, on floors that are too slippery, and a housekeeper wonders how some of the windows could be reached for washing. But there can't be many dormitories where the mechanics of life would be less bothersome.

Thoroughly practical, too, are the basic architectural features. So closely have the architects adapted the building to the natural setting, that anyone can look at the plot plan and visualize the site. The site, one sees, must be a rounded hillside. (It is the one northwest of the Greek Theatre, beyond the little canyon.) The long, one-room-wide axis of the building doesn't **curve** around the hill but it bends in two places. At the Hearst Street end, where the bulge of the hill is greatest, the dormitory is only one story high. At the canyon end, where the slope falls away, the

DRAWING-ROOM; WINDOWS OVERLOOK THE GOLDEN GATE

DRAWING-ROOM FIREPLACE. SCREEN IS HAND-WROUGHT TIN

ENTRANCE HALL; STAIRWAY, LEFT, TO DINING ROOM

DINING-ROOM, GROUND FLOOR CENTRAL SECTION

height is four stories (shallower stories, however).

The harmony between hill and house is very pleasing, especially from the exterior. To some methodical people it may be vaguely disturbing to walk along a corridor that takes a new direction suddenly, for no reason apparent **inside** the building—or to turn a corner and find it almost, but not quite, a right-angle corner. We are "going along with the hillside," but the hillside isn't seen as a whole from anywhere within. One remembers that caves were the perfect adaptation of shelters to sites and that right angles, squares and circles may have represented an advance in organized thought. There have even been **symmetrical** buildings that didn't fight their settings.

The functions of the dormitory are cleverly and economically segregated into three parts, each of which is structurally a unit.

At the Hearst Street side is the compact section of service rooms. Where these come to an end, the building takes a new direction and acquires new proportions. The social rooms are in this next part: drawing-room, "beau parlor," library and office on the top floor; dining-room and utility rooms on the floor below. Ceilings are very high and wide here. Through a door and around another bend, and the section of students' rooms is reached. Here the ceilings are low and rooms are small; everything is packed in tight.

Economy is evident too in the way that the basic materials were used—decoratively, but frankly. That the building is reinforced concrete is obvious everywhere, inside and out. This makes for a degree of starkness which is all the more noticeable on the elegant Berkeley campus. But the dormitory isn't cold. Light, air and color have seldom been used with greater appeal.

COLOR TREATMENT IS DARING

The unconventional use of color is apparent almost as far as the building can be seen, for various parts of it are colored differently, with brush coats in blue, linen, and terra cotta. Other colors in the trim, and tiles, and metal trellises for eventual vines add their sparkle to the exterior. But it is on the inside that the profusion of colors is most striking.

The floors in the social rooms are black, an effective background for the giant panda rugs and for the scarlet carpet on the stairs. In the girls' wings, the floors are red. Chartreuse is conspicous, also yellow, a glowing blue, and a subtle red. At right angles to the north bank of windows in the drawing-room hang a series of drapes, like vertical fabric louvres, each in a different brilliant color. The dining-room is red and blue.

It is difficult to separate the architecture and furnishings, for they seem to have been planned together. The decorator was Mrs. Frances Elkins of Monterey who worked with Mr. Wurster on the Yerba Buena Club at Treasure Island. The dormitory shows the same kind of imaginative collaboration.

Most of the furniture is in the light shades between blonde and cinnamon, with black accents, as in the grand piano. There is much shiny tin, hand-wrought in Mexico, in screens and in the giant—truly giant—lighting fixtures. Bright tile tubs for plants are also huge. Other tile receptacles for cigarettes would be measused in feet rather than inches. In the "beau parlor" the windows are covered with black voile curtains, and black and white chintz drapes. The floor, too, is black, the furniture red and white.

A mere list of these brillant elements sounds as if the dormitory were staggering. But the color is so skillfully balanced with an abundance of space and light that the effect is stimulating, certainly, but in most ways lovely.

The social rooms are particularly spacious. For instance, the drawing-room is 25′ x 48′ and seems even larger because of the way the windows and furniture are grouped. On the patio side the bank of windows are high for a full view of the rising hills; on the Bay side they compose the lower half of the wall so that the great distances outside are visible, but without a glaring area of sky.

The two stairways in this part of the building are glass-enclosed from foundations to roof, providing one of the airiest and most pleasing effects in the dormitory. Mounting them, in all the light, seems more like soaring than the

heavy business of lifting one's weight. One staircase is spiral with a simple iron balustrade. The other rises among the lacey leaves of bamboo growing permanently inside the glass as in a conservatory.

ABODE FOR PICK-UP IN MORALE

As a place to go for a pick-up in morale, a better building than Stern Hall could scarcely be imagined. Particularly for picking up from disillusionment or cynicism . . . for the dormitory's freshness is not naive. In fact, some things about it suggest the kind of sophistication that is nostalgic for freshness. Is that kind of stimulation truly suitable in a home for girls?

And is any **home** justified in being so provocative? Home is a place to be tired in, as well as serving other purposes. The designers may not know it, but college girls can be very, very tired. The dormitory might actually be annoying if one were cramming for exams.

And considering the average background of students at a state university, is it certain the girls feel easy in this new home? In the years ahead more and more multiple-unit dwellings will be built. The dormitory raises the question of how far beyond the occupants' tastes such dwellings should be.

Of the six or eight girls' rooms that I saw at Stern Hall, none was extreme. What their occupants had attempted might be described as femininity with a light touch. These were not rooms the girls' mothers would have furnished; there were more maps than flower prints on the walls, and several showed a modern respect for simplicity. But apparently all the girls like **delicate** effects: gauzy curtains, pastel colors, miniature figurines. Though some of the rooms didn't show much imagination, all were places where one could relax.

STUDENTS FURNISH ALL BUT BEDS, CHAIRS, DESKS

One thing the dormitory needs, I should say, is an undramatic lounge where a girl could go when her mind got cramped with theorems and the narrow walls of her own room, where she could go and vegetate. Better would be a series of small lounges that could become beau parlors between 8 and 10 p.m., so that

(Turn to Page 31)

HOW THE BRITISH HAVE ORGANIZED THEIR STUDY OF POST WAR BUILDING

The British organization to make plans for post-war building heads up in the Directorate of Post-War Building of the Ministry of Works and Planning. A secretary has been appointed to take care of the actual work. An Installations Policy Committee, a Structure Policy Committee, and a Design Policy Committee will report to the secretary.

The study committees carrying on research and development in the building field report to the three policy committees as shown in the list below.

The British set-up includes a committee on Codes and Practices whose functions seem to be similar to the ASA Building Code Correlating Committee, which plans, supervises, and correlates the work of the various ASA committees dealing with building code matters. Materials, specifications, dimensional specifications, and methods of test, in the British set-up, will be prepared by a Standards Committee. The work of these committees will be cleared through the British Standards Institution.

Committees of the American Standards Association which are working on comparable building problems, and which will be kept in touch with the British work through the new liaison arrangement, just completed, are also listed below. To make the American picture a little more concrete, a partial list of standards in the fields of these committees has been added in parentheses and in smaller type. No attempt has been made to include a large number of American Standard materials specifications and methods of test developed through the American Society for Testing Materials and other organizations.

British Committees Reporting to the Design Policy Committee	ASA Committee Nearest In Scope
Design of Houses and Flats	
Design of Houses and Flats for Scotland	
Committee on House Construction	
School Planning Group	
Business Buildings Committee	
Farm Buildings Committee	
Committee for the Architectural Use of Materials	
Acoustics Committee	Acoustical Measurements and Terminology—Z24 (Acoustical Terminology—Z24.1-1942 Noise Measurement—Z24.2-1942)

British Committees Reporting to the Structures Policy Committee	ASA Committee Nearest In Scope
Steel Structures Committee	Building Code Requirements for Iron and Steel—A57
Reinforced Concrete Structures Committee	Building Code Requirements for Wood—A61
Timber Structures Committee	
Walls, Floors, and Roofs Committee	Specifications for Plastering—A42 (Specifications for Gypsum Plastering, Including Requirements for Lathing and Furring—A42.1-1942) Floor and Wall Openings—A12 (Safety Code for Floor and Wall Openings, Railings, and Toe Boards—A12-1932) Walkway Surfaces, Safety—A22
Committee for Fire-Grading of Buildings	Building Code Requirements for Fire Protection and Fire Resistance—A51 Fire Tests for Building Construction and Materials—A2 (Methods of Fire Tests of Building Construction and Materials—A2.1-1942 Methods of Fire Tests of Door Assemblies—A2.2-1942)

British Committees Reporting to Installations Policy Committee	ASA Committee Nearest In Scope
Lighting Committee	School Lighting—A23 (Standards of School Lighting—A23-1938) Industrial Lighting—A11 (Industrial Lighting—A11-1942) Building Code Requirements for Light and Ventilation—A53
Heating and Ventilation Committee	Chimneys and Heating Appliances—A52 Building Code Committee for Light and Ventilation—A53 Dimensioning of Furnaces—B50
Mechanical Installations Committee	Elevators—A17 (Safety Code for Elevators, Dumbwaiters, and Escalators—A17.3-1942) Mechanical Refrigeration—B9 (Safety Code for Mechanical Refrigeration—B9-1939) Refrigerator Standards—B38 (Code for Testing Domestic Refrigerators—B38c1-1931)
Electrical Installations Committee	National Electrical Code—C1 (National Electrical Code—C1-1940) Electric Ranges—C71 Electric Water Heaters—C72 Refrigerators—B38
Gas Installations Committee	Gas Safety Code—K2 (Gas Safety Code—K2-1927) Requirements for City Gas—Z27 (Recommended Practice for the Installation, Maintenance, and Use of Piping and Fittings for City Gas—Z27-1933) Gas-Burning Appliances—Z21 (Hotel and Restaurant Ranges and Unit Broilers—Z21.3-1940 Domestic Gas Ranges—Z21.1-1940 Private Garage Heaters—Z21.4-1932 Gas Clothes Dryers—Z21.5-1940 Incinerators—Z21.6-1932 Installation of Conversion Burners in House Heating and Water Heating Appliances—Z21.8-1940 Hot Plates and Laundry Stoves—Z21.9-1940 Gas Water Heaters—Z21.10-1941; Z21.10WS-1942 Gas Space Heaters—Z21.11-1940 Draft Hoods—Z21.12-1937 Central Heating Gas Appliances—Z21.13-1940 Gas Conversion Burners—Z21.17-1940 Refrigerators Using Gas Fuel—Z21.19-1942 Automatic Pilots—Z21-20-1940 Portable Gas Baking and Roasting Ovens—Z21.28-1941)
Plumbing Committee	Plumbing—A40 (Cast Iron Soil Pipe and Fittings—A40.1-1935 Air Gaps in Plumbing Systems—A40.4-1942)

American Committees for Which British Set-up Has No Committee of Similar Title

Coordination of Dimensions of Building Materials and Equipment—A62
(This Committee is interested in design problems common to most of the British committees listed above.)
Building Code Requirements for Fire Extinguishing Equipment—A54
Administrative Requirements for Building Codes—Z55
Building Code Requirements for Minimum Design Loads in Buildings—A58
Building Code Requirements for Reinforced Gypsum Concrete—A59
(Building Code Requirements for Reinforced Gypsum Concrete—A59.1-1941)
Building Code Requirements for Signs and Outdoor Display Structures—A60
Safety Code for Portable Steel and Wood Grandstands—Z20
(Specifications for Portable Steel and Wood Grandstands—Z20.1-1941)

A CARMEL, CALIFORNIA HOUSE UNFOLDS

This house in Carmel, being mostly for summer use, is closely knit and intimate, and yet can unfold itself into something quite spacious. The entrance via the side terrace leaves an unbroken expanse for the living room and front balcony to extend across the lot. It also affords an opportunity for the lounging and sleeping balcony in the upper part of the living room.

Through this small house runs a rose red pole holding in place a floor, a balcony, a roof. On the outside are painted panels in tones blending with a screen of trees found on either side of the narrow lot. Both post and applied design are so handled that they develop the character and individuality and interest of the house.

All these areas and spaces have possibilities of coming together as a common area, or separating into somewhat individual units. All are so oriented as to catch the maximum of Carmel sun and afford glimpses of Monterey Bay.

Interior finish is of plywood and pine. The walls are a soft putty color, with a red ceiling picking up the color of the post. This post, as seen with its round table in the living room, has proved a hub or rallying space for family life.

A lean-to kitchen and bedroom are at the rear and have easy access to the terrace.

In a plan such as shown the imagination needs little stimulation as to the possibilities for expanding and varying the social and home life.

R. YELLAND
chitect

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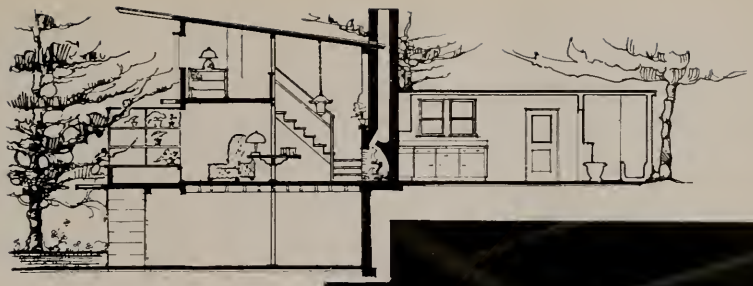
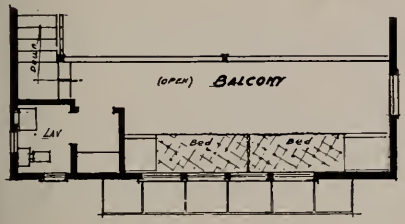
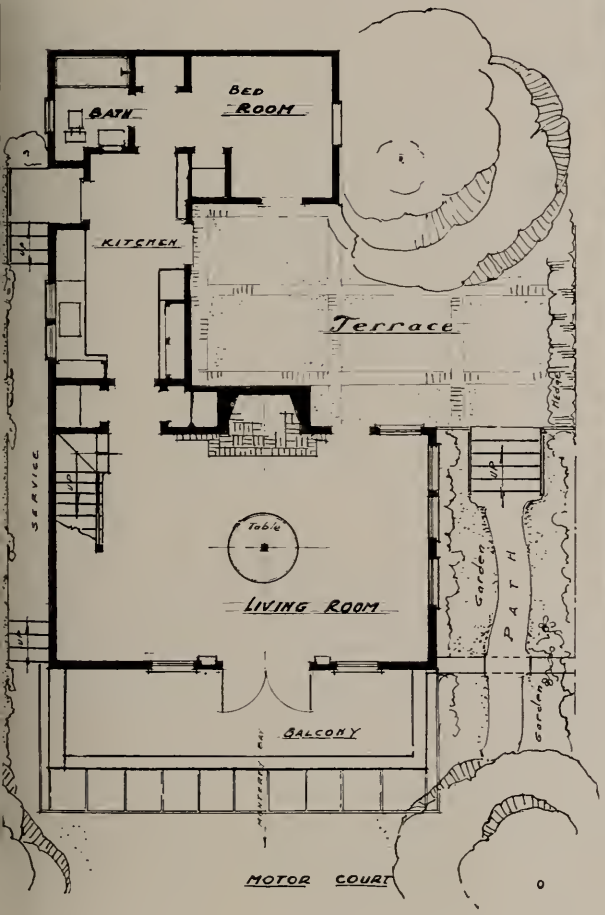






PLANS
HOUSE FOR MR. AND MRS.
GUS OLSON, CARMEL, CALIFORNIA

WAR WILL CREATE A NEW PHYSICAL WORLD

A new physical world, utilizing the methods and materials developed in wartime, will arise in the post-war era, Dean Leopold Arnaud of the Columbia School of Architecture predicts in his annual report to Dr. Nicholas Murray Butler, president of the University. Dean Arnaud foresees a period of "great creative fecundity," with an unprecedented need for buildings.

"The ever changing processes, methods, and materials which are being developed daily during the war construction period," Dean Arnaud declares "will have a profound influence upon the physical aspect of the post-war world.

"New forms that were in their earliest embryonic phase only a few years ago are developing rapidly, and are already quite generally accepted. Although applied at present to machines of war, it is inevitable that, eventually, they will be applied to the requirements of peace.

"Industrialists, economists, and designers are aware of these elements of change, and are actively preparing by study and experiment for the period of activity which lies ahead. It is conceded, therefore, that building activity in the near future will be tremendous in scope; and because the changes in methods and forms will be drastic and general it should be a period of great creative fecundity. New methods, new materials, new problems, new social and economic requirements will produce not only a new era, but also a new physical world."

"Planning" for the whole social structure in its every phase is a word heard on all sides, and most of this "planning" will involve building of some kind, Dean Arnaud points out.

"The problems include the replanning of townships; the rearrangement of urban areas; the erection of countless buildings of every kind; the renovation, alteration, and re-equipment of outmoded or overaged structures; the conversion of industrial plants from production for war to production for peace; and the housing of a large percentage of the population which will change its mode and place of residence. In this nation-wide plan for building and rebuilding, the architect must have a definite place."

For Columbia architectural students the problem of finding employment does not exist at present, Dean Arnaud reports. "On the contrary," he explains, "we cannot fill any part of the urgent demands that come to us, as the need for draftsmen, superintendents, and designers continues to be acute. This is a condition which exists throughout the country and is of real concern to all the schools of architecture.

"Many students, especially the women students, accepted positions of this nature for the summer, because of the experience offered, because of the salaries obtainable, and chiefly because they have felt that they were contributing their knowledge to the war effort. Now they must make the difficult choice of giving up these jobs to return to school, or of continuing and thereby seriously interrupting their professional studies.

"Apart from patriotism it is difficult for these young people to resign from positions which pay extremely well, fifty to a hundred dollars per week, especially when they know how great is the demand for draftsmen and when the employers often offer them raises in salary to induce them to start."

The Association of Collegiate Schools of Architecture, Dean Arnaud says, has continued its efforts to have the student of architecture recognized by the selective service boards on the same basis as the student of engineering.

"Although we have not met with complete official success, we have bettered the architect's position, and have obtained favorable action from many local boards," he adds. We still believe that the various governmental agencies will soon modify their judgment, and give equal recognition to engineer and architect in all cases.

"Although the title 'architect' is not used by the armed forces, many architects are now occupied in designing and building for these services, either as commissioned officers or as 'engineers,' and are given assignments of great responsibility, which proves beyond question their practical value."

INDUSTRIAL CAMOUFLAGE

By LEROY E. KIEFER, with General Motors Co.

When I was asked to talk to you* on the subject of Industrial Camouflage, I felt rather hesitant because I felt that most of you are familiar with its problems and are probably familiar with its technique. I cannot set myself up as an expert in the field. Experts aren't made in the few months which have elapsed since Pearl Harbor, but I can say that my department has spent most of its time since then working on camouflage in all its ramifications. Previous to Pearl Harbor we were the Industrial Design Department of General Motors Styling Section, and as such had designers with a wide experience at our disposal. At times we have had more than fifty men engaged in camouflage study. These men are all trained to attack new problems and they stepped into this one with enthusiasm. In a short time they combed over most of the published information and combined it with their own ingenuity to develop a catalogue of ideas and methods, with the materials to carry them out.

I shall attempt to give you an outline of our experiences with the study of Industrial Camouflage. In the last war camouflage was employed on a constantly increasing scale. Ships were covered with dazzle patterns, aimed to confuse the enemy more than to hide the ship. Roads were screened and gun emplacements carefully hidden. I presume all of you are familiar with the thorough job the Germans did on the great gun which shelled Paris.

Aerial reconnaissance was developed in the last war and the war soon became a three-dimensional one. Camouflage was then necessary above as well as in front of military installations. Airplanes, however, had a relatively short range and, with the exception of Zeppelin bombing, there were few attacks on civilian installations. Even the Zeppelin attacks were ineffectual and had value chiefly as a nuisance.

There are many differences between the last war and this one, but one of the greatest is the tremendous development of Aviation as an attack weapon. Our planes, and those of our enemies, are capable of bombing almost any objective and one of the most important objectives is the reduction of production and transportation facilities, and its by-product—the destruction of civilian morale. It has been said recently that the German air blitz against England was on the verge of success when it was broken off.

Because all aerial activity, other than actual air combat between opposing planes, depends upon observation at some distance of fixed or relatively slow-moving objects, camouflage has come to be much more important than ever before. One of the best ways to avoid enemy interruption of an important objective, be it military or civilian, is to make it difficult for the enemy to see or find it. This is the job of camouflage.

MILITARY AND CIVILIAN CAMOUFLAGE

Camouflage breaks down into two major divisions — military and civilian. The chief difference is that the military camouflage is usually in an active theatre of operations and generally is concerned with relatively small installations and often must be mobile. Civilian camouflage — or more specifically, industrial camouflage—is almost always a long way from the active front, is definitely static and covers large areas. Industrial camouflage is not simply dealt with. The problems are many and varied. Almost always the camoufleur is called in after the site has been selected and the building built. It is then up to him to do something with it.

I grant that this is not good planning, but the reasoning seems to be this: Let's get under way as soon as possible and plan our building for maximum production efficiency, if we have to camouflage we can do it later. This reasoning accounts for the construction of the tremendous plants under one roof. Planning an

* Detroit Chapter, A.I.A.

operation under one roof permits the inevitable production changes, which may eliminate one department and double or treble another without any basic changes in building structure. So far, paying no attention to camouflage has been good judgment for we have had no bombing. If we ever get regular bombing there may be good reason to develop de-centralization within a plant, but that time is not yet here.

I shall digress for a moment to outline the detection of camouflage. This depends for the most part on aerial reconnaissance. An observer is dispatched to the area for the purpose of taking pictures of the target from all angles and with all methods of photography. The important methods are:

1. Ordinary black and white photography
2. Color photography
3. Stereophotographic views—black and white, and color
4. Infra-red photography

The first two are self-explanatory; the third — stereophotography — makes it possible to measure the relative heights of objects and by this method a low decoy, which in plan view might match or imitate a plant completely, can be detected.

Infra-red photography merits a more detailed description, not only because of its recent development, but because of its value in camouflage detection. In order to obtain an elementary knowledge of the practice of infra-red photography, it is perhaps best to begin with a brief outline of what infra-red rays are.

To render visible the different colors of light which make up white light, a glass prism may be used to spread it out into the familiar spectrum. The colors range from violet through the blues, greens, yellows, oranges and reds, to the deep red. Each color is of a different wave length, which increases as the spectrum is traversed from violet to red. One measurement of wave length is the millimicron, which is one-millionth of a millimeter long. The visible spectrum covers a range of wave lengths from about 400 millicrons at the violet end to about 700 millicrons at the deep red.

There exist beyond each end of the visible spectrum radiations which are invisible but similar in nature; ultra-violet of short wave length and infra-red of longer wave length. The latter extends indefinitely beyond the visible, and as the wave length increases, finally merges into heat waves and then radio waves. It is, however, only the infra-red rays near the visible red which are of photographic value and wave lengths between 700 millicrons and 860 millimicrons are used, a band which is almost as wide as the visible green and red regions.

The military value of infra-red photography is based on the fact that common objects reflect visible light and infra-red rays in quite a different manner. For instance, the chlorophyl in green vegetation absorbs visible light so that it photographs dark in any ordinary photograph, but it reflects infra-red radiation so that it photographs light in an infra-red photograph. The opposite is true of a blue sky, which is light in ordinary photographs but dark in infra-red, since there is little infra-red radiation in a blue sky.

More important still is the fact that infra-red rays freely pierce atmospheric haze, so that it is possible to take photographs through the haze of the ground below or of distant horizons which the eye cannot see.

To the camoufleur the importance of infra-red photography lies in the fact that it can generally detect artificial foliage, distinguish certain types of evergreens from deciduous trees since the former photograph dark.

The foregoing statements would make it appear impossible for camouflage to evade intense photographic reconnaissance. In actual practice this is generally so. However, even though the bombardier may have detailed instructions as to the exact position of his target, he still must see it and recognize it before he can bomb it. Therefore, any camouflage steps which decrease the visibility of the target lessen his chances of recognition, and hence are a step in the right direction.

METHODS OF CAMOUFLAGE DESCRIBED

The four major methods of camouflage are: 1. Imitation; 2. Deception; 3. Decoy; 4. Confusion.

1. Imitation is of course the most used and is exactly what the name implies. It is the

blending in with the surrounding territory of the subject in question so that, whether it be in the country or the city, the desert or the mountains, summer or winter, the subject appears to be part and parcel of its own landscape, with no jarring note to distinguish it from its setting. Camouflage by imitation is the most widely used, it is at once the easiest to plan and the most difficult to accomplish; easy, because its scheme is dictated by the surroundings themselves; difficult, because to imitate many of nature's formations by artificial means is no simple task.

2. Deception camouflage is a method which does not attempt to completely hide the subject but to change its appearance enough so that it resembles something of a different and innocuous nature. The principle is employed to deceive the bombardier who is looking for a power house and finds only an "apartment house" respendent with awnings and shrubs.

3. Decoy camouflage is the construction of dummy objectives in conjunction with the concealment of real ones so that the enemy bombs will be attracted to a non-strategic place. Lighting of decoy fires comes under this heading.

4. Confusion—this least used camouflage procedure consists of concealing the objective from the bomber by impairing his clear vision of the area, either through the use of abundant smoke-screening day or night, glaring searchlights, or presenting to his eye such a multiplicity of targets that he cannot decide which to choose (as in the case, for instance, of four or five false oil depots, and one real one; three false airports, one concealed).

[The speaker here presented a series of slides of model studies of the various degrees of camouflage from the simplest toning to the most complicated imitation of surroundings. The studies are described under the following sub titles:]

1. A small plant having many of the characteristics of actual plants, such as: a. Sawtooth roofs; b. Water tank; c. Power-house with stacks; d. Parking lots; e. Railroad spur and driveways.

Here is the plant—note the dark roofs and prominent lines and shadows.

2. The initial stage of Industrial Camouflage, which is merely a toning down process. All contrasts are eliminated and the general tone of the building is matched to the surrounding areas by means of paint and other material.

3. In this job the trees of a nearby area were extended up to the building and the pattern of the trees was extended over the building. This is, as you can see, not very successful in depth of color and we have left it this way to show the importance of matching surrounding tones. One thing particularly successful here, is the killing of shadows from the stacks and water tower.

4. The experiment shows the possibilities of deception; breaking the large factory up into two rather small unimportant units. In this case a dummy might be constructed a half mile away.

Note on this model the start of actual camouflage construction. Flats and frames have been used to break up the long lines of the roof into a series of small irregular shadows, and a dummy road has been carried up over the building. At this point Industrial Camouflage becomes an engineering problem for none of our plants is designed with the idea of supporting additional loads of this type. Then, too, the additional construction itself must be structurally strong enough to support wind and snow loads.

5. Here is one which shows about the ultimate in camouflage. Earth has been banked up around the building to eliminate sharp shadows; netting and osnaberg garlands have been used to flatten the roof and give texture; the parking area has been netted to eliminate the telltale of parked car reflections and shadows and even the stacks have been eliminated by means of blowers, etc. (admittedly a costly procedure).

6. Here is the plant in a city area, as many of our plants are. Just to relieve the monotony we made this a winter scene. Houses made from cheap framing and wall board could be constructed on the roof and cut-outs of flat panels could serve to eliminate the regular outline of the building.

These models serve to illustrate in a simple way the various lengths to which camouflage may be extended.

SCALE MODELS ASSURE BEST RESULTS

The first actual step in Industrial Camouflage is, of course, a thorough study of the area to be camouflaged. The Army Engineer Board recommends a mosaic of shots—4 taken from 3000 ft. and one mile, 4 taken from 10,000 ft. and 3 miles and two vertical stereophotographic from 3000 ft.—one in color. From these the scheme can be planned, a model of the structure can be built and the proposed measures tried out to scale. At times the scale model step has been eliminated but it has been found that a model often prevents costly revisions in the field. Finally the drawings are prepared for the scheme and it is executed full size. After the first studies have been made it is advisable to make a field check to be sure that the general scheme is correct and that the scale is right. By field check I mean the actual construction of a portion of the design as it will be finally installed. The more carefully the scheme is executed, on the drawing board, the more likely it is to succeed and with the minimum of field change.

This part of the country has as yet seen no actual camouflage installation but a great many companies are making studies now for possible future installation. On the Eastern and Western seaboards, however, tens of millions of square feet have been and are being treated.

Most of the work now being done is in the more simplified brackets. By that I mean that so far it is being done chiefly with various types of paint. Some netting is being used over parking lots and at some plants where the management objected to camouflage treatments on the permanent walls of the buildings, temporary ones about two feet outside of the original ones have been erected and used for the camouflaged surfaces. Some jobs have just recently been started where construction, in the form of netting is being erected to get rid of the long straight shadows caused by monitors.

Materials employed in camouflage are limited only by the designer's ingenuity. Paint, in all its forms, is of course, the number one material in camouflage work in spite of all the criticisms leveled at it. Every paint salesman has had the set of nine color chips approved by the U. S. Army for the last six months or more. It is always dead flat and is made in infra-red reflection and not infra-red reflective —the latter being somewhat cheaper. Most of the infra-red reflective paints are made so by the addition of special chromium salts. These are difficult to obtain today, as you may well imagine.

The paints used in camouflage are generally short lived—most of them being set for a 4 to 6 months of life. This is long enough, for in most climates camouflage changes somewhat with the seasons and must be constantly serviced in order to keep its original effect. A great variety of paints have been used and all have their place. Oil vehicle paints are used chiefly for wall surfaces. Bituminous emulsions, with water vehicle, are used for roof surfaces, particularly where tar and gravel has been used. The tar does not burn through this type of paint. Bituminous emulsions are also used where earth and asphalt surfaces are painted.

Special traffic paints are used on runways and other wearing surfaces. There has been a lot of trouble with this phase of painting, for almost all paints tend to make the surface slippery, especially when wet.

Chicken wire netting with steel wool, spun glass or osnaberg garlands, is being used largely for netting over parking lots. And, of course, all types of waterproof boards are being used for the small amount of dummy construction needed. In some cases where dummy roads are employed, they are made of sand or slag.

A great deal of work has been done on airports and, as most of these are in at least a semi-rural area, the technique generally has been to imitate farm land for the major part of the job. In order to carry out the texture of the runways when they have been painted, a great deal of asphalt has been laid adjacent to the runways. This enables the designer to make an otherwise straight roadway into a meandering stream with clumps of trees and shrubs. At times, when farmland is being simulated, an entire field area within an airfield has been paved, just to be sure that the proper texture will carry across the runways.

Sawdust, chips, shavings and many other grits have been used to create texture. At

some airports now camouflaged, runway markers of various types are now being used day and night to enable incoming pilots to find the runway. Landscaping is used in a large way and landscape architects are playing a large roll in present work because of their knowledge of plant forms and the types of planting that grow in the smoky atmosphere of most factories.

It is our distinct opinion that natural landscaping should play a large part in camouflage because of the fact that it continues from season to season without too much change and maintenance.

CAMOUFLAGE BY SMOKE

There is one type of industrial camouflage upon which I have touched most lightly and this purposely. That is camouflage by means of smoke. This is in the highly experimental stage as yet and it is not assured that it can be successfully employed. If it is so employed it will have to be on a tremendous scale. Where smudge or smoke pots are used the minimum installation is about 2500 units and these will need to be experimented with at great length to insure satisfactory results. The wind velocity; the temperature; the time in which the smoke can be generated; the personnel available to start and maintain the smoke, all must be considered. Off hand, I should say that it is the most difficult to execute and will be used only as a last resort.

I have purposely kept the discussion general because my work takes me behind many closed doors. I feel that, in justice to the companies we have served, it is essential to refrain from discussing their projects.

GIRLS' DORMITORY, BERKELEY

(Continued from Page 21)

several girls could entertain their friends in moderate privacy, and not in an exotic atmosphere enclosed by black voile.

A larger library, with some books on the shelves, might be suitable since a university is a place where one goes to learn things.

But one hates to criticize a building that expresses so much joy as Stern Hall. It is not this writer's opinion that the dormitory has basic faults—but only that the designers have seemed a little theoretical, as if they kept too closely in mind that they were creating a background for "exhuberant youth" rather than that nice average youngster from a middle-class home in Bakersfield.

The architects were Corbett & MacMurray of New York and William W. Wurster of San Francisco. The landscaping is being done by the University with Miss Isabella Worn as consultant. The K. E. Parker Company were the general contractors.

STRUCTURAL ENGINEERS

The annual meeting of the Structural Engineers Association of Northern California was held on December 1 at the Engineers Club, 206 Sansome Street, San Francisco. Feature of the evening program was a technicolor sound motion picture, presented by J. E. Mackie, entitled "Trees and Homes." Filmed in the Northwest, the picture showed all the steps by which timber is transformed from the mountains' scenic covering into the material for structures. The Association's annual business meeting followed the entertainment.

Structural engineers spent the morning of December 1 at a meeting in the auditorium of the San Francisco High School of Commerce hearing about, and discussing, the Controlled Materials Plan, or CMP, said to be the most important development in the priorities system. The meeting was sponsored by Mr. Harry W. Fair, Regional Director of WPB in San Francisco. CMP, it was explained, is designed to adjust production programs to supplies of steel, copper and aluminum. The plan will gradually replace the present system.

John J. Gould of San Francisco was appointed by the Board of Directors of the A.S.C.E. as a member of the new committee on Timber Structures of the Structural Division.

The University of California has announced two new evening courses on "Photo-elasticity in Engineering Practice" and "Framed Structures," being given by Jaro J. Polivka. Mr. Polivka has completed his work with Bethlehem's Alameda shipyard and is now with the Kaiser Company on timber structures.

Trygve Ronneberg, a former structural engineer in San Francisco, died in Fresno on November 3. Mr. Ronneberg designed many of San Francisco's steel frame structures. At one time he was associated with Willis Polk and Company.

FOR READING AND REFERENCE

STATE HOUSING AGENCIES, By Dorothy Schaffter. New York, Columbia Univ. Press (2960 Broadway), 1942. 808 pp., 6 x 8⅛ in., tables, charts, $7.50.

Eight hundred pages of detailed facts about state housing agencies sounds like a valuable source of reference material, but heavy going as literature.

Actually the book will create a reading public from the very ones who take it down to find minute and obscure facts, for its vast mass of information has been so well assimilated, appraised with such a good perspective, that it soon prompts the nibbling researcher to read beyond his immediate needs. The book stimulates thought on the question of postwar housing and the agencies that will produce it.

The author is professor of political science at Vassar. She has done a scholarly job of collecting and examining the records of housing agencies in 21 states, presenting here the history of their struggles and achievements, and their influence on national housing trends. There are nearly a hundred pages of bibliography.

RALPH ADAMS CRAM, F.A.I.A.

Ralph Adams Cram, foremost ecclesiaistical architect in this country during his later life, died in a hospital in Boston, Mass., after two weeks' illness, on September 22, age 79. Mr. Cram was born in Hampton Falls, N. H. December 16, 1863, the son of a Unitarian minister. His early schooling was at Augusta, Me., Westford, Mass., Exeter, N. H. He was honored with degrees by Princeton, Williams, Yale and Notre Dame universities.

In 1889 Cram and Charles Francis Wentworth established their architects' office in Boston under the firm name of Cram & Wentworth. A few years later Bertram Grosvenor Goodhue after having served that firm as draftsman for a short time, became a partner under the firm name of Cram, Wentworth & Goodhue. Mr. Wentworth died after a few years when the firm changed to Cram, Goodhue & Ferguson. This firm continued till 1914 when Mr. Cram continued the Boston office as Cram & Ferguson and Mr. Goodhue continued the New York office as Bertram Grosvenor Goodhue.

In the early years in Boston with Wentworth and Goodhue, their architecture, while not exclusively, was largely ecclesiastical work and their reputation for beautiful churches grew rapidly. Cram, himself a very religious man, lectured in all parts of the country on religious art and architecture and received architectural commissions in proportion to the favorable impressions he made.

The Cathedral of St. John the Divine had been awarded to Heins & LaFarge in competition about 1900. That firm had carried out its premeated design through the choir end and the great crossing piers of the cathedral when Mr. Heins died. Soon after this the cathedral trustees elected Ralph Adams Cram architect for the cathedral. Mr. Cram changed from Heins & LaFarge's North Italian Romanesque to English Gothic which the cathedral, now erected, portrays from the choir end forward to Amsterdam Avenue. Cram's contribution to church architecture in Chicago is the Fourth Presbyterian church on North Michigan Avenue and Delaware Place. The late Howard Shaw, besides planning and designing the parish buildings adjoining the Fourth church, superintended the erection of the church proper for Mr. Cram. Space prevents mention of many other outstanding churches designed by Cram and his office.

He was a prolific writer. Not alone are there twenty bound volumes on art and architecture standing to his credit, he was also a frequent contributor to the architectral journals.

For a number of years Mr. Cram was head of the Architectural Department of M.I.T. He was a Fellow of the American Institute of Architects, Fellow Am. Acad. Arts and Sciences, Nat. Inst. Arts and Letters, Boston Society of Architects, Am. Federation Arts, honorary corr. member R.I.B.A.

WORLD'S LARGEST PAINT SPRAY ENCLOSURES FOR PAINTING ASSEMBLED PLANES

One of the many unusual features of two recently completed mammoth bomber assembly plants in the Southwest is the provision made at each plant for a paint spray structure large enough to permit the painting—after complete assembly—of the huge bombing planes turned out by the plants.

No paint spray buildings of equal size have ever before been constructed. At each plant the enclosure in which the assembled planes are painted is 150 feet wide, 200 feet long and 35 feet high. A partition which can be lowered from the ceiling to the floor makes it possible to divide the enclosure into two sections, each large enough to handle an entire plane.

The size of the enclosure at each plant, however, is less remarkable than the ventilating system which was designed to provide a means of exhausting the paint laden air, and replacing it with washed and filtered air. Such a system was required both to protect those handling the spray nozzles from spray and fumes, and to eliminate the fire and explosion hazard.

The ventilating problem was solved by designing a system which draws 700,000 cubic feet of air per minute from the outside atmosphere, washes it, warms it, filters it, draws it across the enclosure in an even flow, washes out the pigment, and exhausts the air into the outside atmosphere again. There are eight air supply units and eight exhaust units.

For every pound of paint sprayed, there is supplied 5250 pounds of air and 6466 pounds of water. This is about five times the paint-air-water ratio of comparable commercial installations. It takes a crew of six men about two hours to paint a plane. Twenty-five gallons of paint are required.

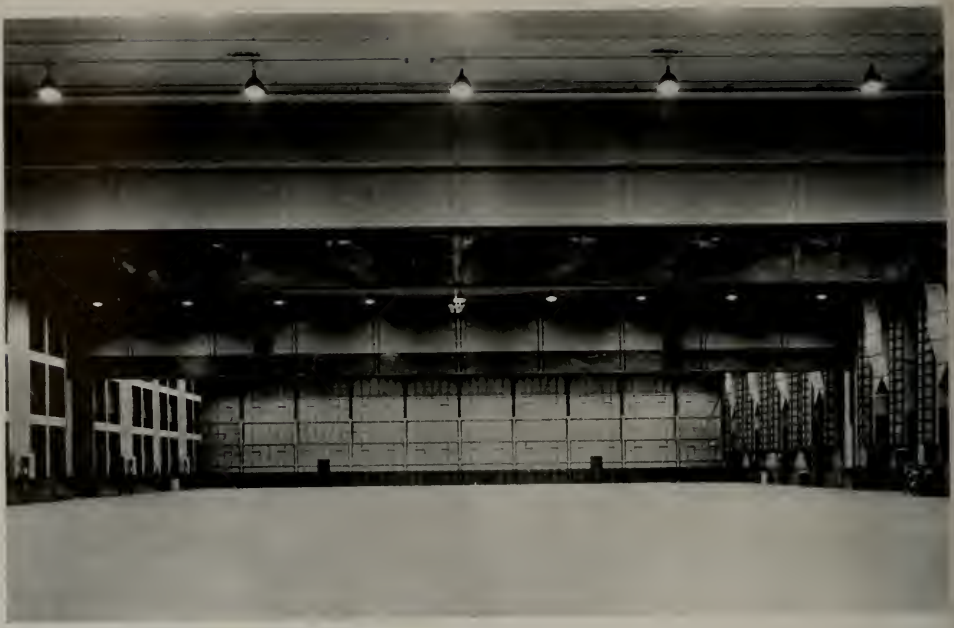
All equipment for the air supply units is mounted in the roof trusses, taking fresh air from near the roof line. Fans draw the air in through automatic inlet louvres. After being tempered by steam coils, washed, and re-heated to a constantly controlled temperature of 80 degrees, Fahrenheit, the air is evenly distributed over the entry wall through a system of dampered ductwork.

Admission of the air into the spray enclosure is then made through replaceable glass fiber air filters. These filters consist of mats of fine, interlaced glass fibers coated with a dust-catching adhesive. Their function is to strain out any particles of dust or pollen that may remain in the air stream. They are arranged in 16 vertical bay panels, each containing 57 filter cells. Each cell provides room for 4 filters. Thus 3,648 filters are employed to strain the air entering the enclosure.

The ductwork and filters are so arranged that the clean air enters the enclosure in such a way as to

One of the exhaust units in the fabricating shop, prior to installation

Glass fiber air filters arranged in 912 cells, each cell containing four filters, line the wall through which the washed, warmed and filtered air enters the enclosure



The filter panels through which the washed, warmed and filtered air enters are at the right. The exhaust units are at the left.

View through the enclosure, with end doors rolled up to permit entrance of bombers. The air filters through which the air passes the enclosure are at the left; the exhaust units at the right.

provide an evenly distributed flow from side to side, from floor to ceiling. The overspray from the paint spray guns is carried horizontally by the flow of air from the point where it is produced, across the width of the enclosure, to the nearest exhaust opening at the opposite side. The lighter overspray has no opportunity to settle in traversing the enclosure.

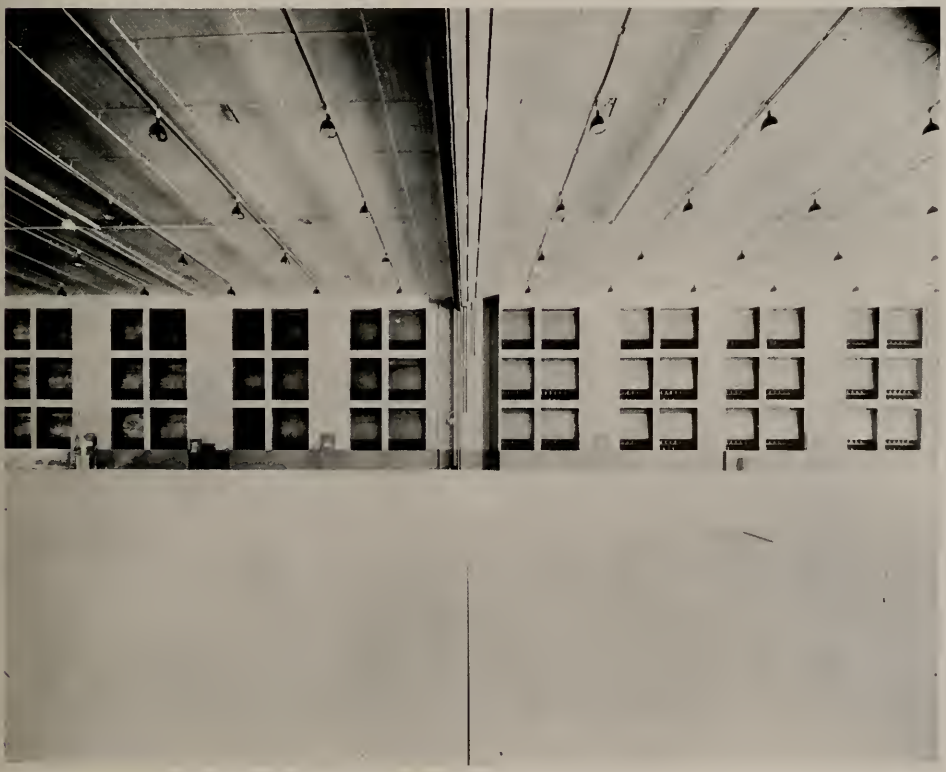
The eight exhaust units are arranged to draw the air out at three levels, thus helping to maintain even distribution. Each unit section has a constant flow or water over its flood sheet, the surface exposed to the room.

A suction-draft exhaust fan, located outside of each unit, draws the paint-laden air through a series of conical, high-pressure water sprays, confined in circular orifices. Centrifuge tubes completely separate the water and sludge from the air and deposit them in a sludge tank below. Only clean air passes through the exhaust ducts and fan.

The sludge tank for each unit holds 2000 gallons of water. The water in these tanks is continuously recirculated through the units by pumps mounted on the floor in the spaces between them. The only loss of water is from evaporation. Water spray nozzles are in plain sight and readily accessible. There are no concealed eliminators that require removal for cleaning.

Should a fire be generated within the enclosure it would be impossible for it to pass through the water sprays and spread through the exhaust system. The glass fiber filters through which the clean air enters at the opposite side of the enclosure do not support combustion, and would tend to act as a barrier to fire spreading into the supply system. Further, the dust-catching adhesive with which the glass fibers are coated, carries underwriters' approval as a material without smoke or fire hazard.

The entire system is controlled by electric push buttons within reach from the paint floor level. Each of the supply and exhaust units is independently controlled. Any combination of the units can be operated together. Automatically controlled dampers on both the supply and exhaust units close when a unit is shut down and open when it is started up again. When no painting operations are in progress, but the outside temperature requires heat in the structure, about 10 per cent of the capacity of the supply air is drawn in through one unit to maintain a working temperature.



The exhaust units which clean the paint-laden air and discharge it into the outside atmosphere.

LOOKING AHEAD—AMERICA'S POTENTIAL NEEDS

A vast, immediate post-war consumer demand ranging from 2,100,000 automobiles to 900,000 electric irons —and a personal savings program to help finance it—was disclosed by a nation-wide survey of family needs within the first six months after the end of hostilities.

These and scores of other definite indications came from a scientific sampling of estimated needs of thousands of families throughout the United States, obtained by personal interviews for the Chamber of Commerce of the United States.

The Chamber consumer survey, now completed, shows that there will be a demand for 1,500,000 mechanical refrigerators, 1,200,000 washing machines, 1,200,000 radios and 600,000 sewing machines. More than 1,200,000 families will want to buy living room furniture. bedroom furniture or rugs, carpets and linoleum.

About 3.4 out of every ten home owners would make repairs and improvements in their homes within six months after the war, with 17 per cent planning to paint the outside; 7 per cent expecting to put on a new roof, and 6 per cent hoping to redecorate the interior. Six out of every 10 farmers who own their own farms would do these things in the first six months: build or repair new outbuildings, barns, fences, tenant houses.

Eric A. Johnston, Chamber president, said that while the first job of business is to win the war as quickly as possible, "we must not overlook the fact that when peace comes we shall have to turn to the every-day task of supplying the nation's accumulated wants and in doing so furnish jobs for the millions who will be released from the armed services and from war production."

"The nation-wide survey," Johnston said, "will be kept up to date currently, to furnish government and industry with facts on post-war consumer needs and potential purchasing power, together with the time and requirements for reconversion of industry to meet the demands of a renewal of peace-time production."

"The survey is divided into two phases—consumer research and specific industrial research. The post-war consumer market analysis will be translated into terms of raw materials, plant capacity, machine tools, and labor required to meet the demands of consumers."

To finance consumer-planned purchases, 56 per cent of the families said they were able to save at the present time—29 per cent are laying away 8 per cent or more of their monthly income and 35 per cent are planning to have an accumulated annual saving of 10 per cent or more. Fifty-nine per cent of the families are putting money into war bonds and stamps; 50 per cent are using life insurance; 16 per cent savings accounts; 16 per cent are paying off mortgages and 10 per cent are channeling their funds into other savings or investments. Nineteen per cent are saving for a specific post-war purchase.

"Despite the evidence that many people intend to make extensive major purchases immediately after the war, most people are not—on the basis of present saving—counting on buying these things for cash," the Chamber said it has found. "The American habit of installment buying will continue to be a major factor in large consumer purchases."

About half of the present consumers think there will be plenty of jobs, while 38 per cent believe there will be serious unemployment. Seventeen per cent believe that the country's factories will be able to supply people with all the things they want to buy within six months after the war, but the rest believe it will take more time.

The careful sampling of the nation's families, and families alone, indicates that nine hundred thousand families intend to build or buy a new house within six months after the war is over:

33 per cent would pay $3,000 for the house

26 per cent would pay $3,000 to $5,000 for the house

24 per cent would pay $5,000 to $10,000 for the house

7 per cent would pay more than $10,000

10 per cent are uncertain what they would pay.

In all, an expenditure of about $5,000,000,000 is indicated.

On the question of consumer post-war purchasing power, 30 per cent of the families interviewed said they were better off than before the war; 27 per cent said they were worse off than before the war; and, 43 per cent saw no change.

But 37 per cent of the families said they had more money to spend for things other than food, shelter, and clothes than they had 2 to 3 years ago; 34 per cent said they had less money to spend; and, 29 per cent said they had about the same.

MASTER PLAN FOR LONDON

The Urban Land Institute reports that London's Modern Architectural Research Group have made a master plan for the post war rebuilding of London. For years the late Sir Raymond Unwin preached decentralization of cities, and this research group apparently is following his advice in their proposed master plan.

Many plans to rebuild London have been proposed before and since the great fire of 1666; but after that fire the city was rebuilt practically on the old lines. The new plan proposes a decrease in density population within a fifteen mile radius of London's center. In this area 900,000 houses were built in the twenty years preceding 1939. A new feature of the proposed plan, not considered in its predecessors, is provision for a great central airport.

WHAT THE ARCHITECTS ARE DOING

HOUSING THE WAR

Activities of western architects and engineers furnish a picture of the Coast at war. Plants for the Army and Navy start the chain of construction, which ends with schools for defense workers' children and — trailer camps, which are something new in many architects' orbits.

Most of the men designing military structures have accepted anonymity, of course, but they must be busy because there has been an upturn in this type of construction after an apparent lull. Included have been series of hangars and laundries.

* * *

The Navy is getting started on its $4,000,000 Replacement and Recuperation Center near Pleasanton, California, and has announced W. D. Peugh as architect of the many types of buildings included in the project.

Another hospital project is the $1,735,000 hospital and nurses' home at Vallejo, designed by Douglas D. Stone of San Francisco.

The Emergency Guayule Rubber Project is keeping Charles E. Butner busy. He is doing plans for three camps near Patterson, one near Arbuckle, and several in Southern California. Mr. Butner has completed the drawings for the $200,000 Community Hospital at Salinas, and has found time to design a ranch house for Mr. James Anderson.

Engineer L. H. Nishkian of San Francisco has drawn the plans for three factory building additions for the Joshua Hendy Iron Works at Sunnyvale.

* * *

But housing continues to be the most conspicuous defense building activity. Recent news is the unfreezing of San Francisco's Hunters' Point project, on which bids have been retaken with awards reported as going to Barrett & Hilp and MacDonald & Kahn. Architects Timothy L. Pflueger and Lewis P. Hobart have had to revise their earlier drawings, as the buildings are now of temporary construction. They consist of 500 dormitory units to cost approximately $400,000, on which Mr. Hobart is concentrating; and 500 family dwelling units at $1,000,000 being designed by Mr. Pflueger.

Another Vallejo housing project is under way with David H. Horn of Fresno doing the plans. The Vallejo Housing Authority is sponsor of these 1,000 apartment units and 500 dormitory units. Mr. Horn has moved his office to San Francisco, 564 Market Street.

The Housing Authority of the City of Oakland is making progress on its 1,000 apartment and dwelling units designed by John J. Donovan.

* * *

The Richmond Housing Authority awarded the general contract for their 800 apartment and dwelling units to the G. W. Williams Company of Burlingame for $1,310,475. Albert F. Roller and Keith O. Narbett have been associated as the architects.

Mr. Narbett is now working with Eldridge T. Spencer and E. Geoffrey Bangs in designing 250 dwelling units, 275 apartment units and a dormitory building at Pittsburg, and the same group is preparing the working drawings for the San Pablo trailer camp.

Mr. Bangs, meanwhile, is also associated with Carl I. Warnecke and Vincent G. Raney on another Richmond project—1200 apartment units. And Mr. Warnecke is associated wtih Andrew T. Hass in designing the 2,000 apartment and dwelling units for the Housing Authority of Alameda.

Russell G. DeLappe of San Francisco has completed the working drawings for 400 apartment units at Benicia and is now at work on plans for 150 family dwellings at Riverbank.

The Housing Authority of the County of San Joaquin has commissioned Peter M. Sala to design 200 war apartment units to be built at Tracy and cost $400,000.

* * *

Marin County Housing Authority has undertaken to relieve the housing situation at Hamilton Field with apartment buildings (125 units), a dormitory, cafeteria, community building and store. The plans are being drawn by Frederick H. Meyer and Roland I. Stingham of San Francisco.

Moore & Roberts of San Francisco bid successfully for the general contract ($2,499,777) on the Kirkland, Washington, housing project, which is to consist of 500 dwelling units, 500 apartment units and dormitory buildings to house 200 men. Architects are Earl W. Morrison and John T. Jacobsen of Seattle.

New temporary school buildings include 16 additional classrooms for the high school at Napa, for which Will G. Corlett of Oakland is now making preliminary drawings. They will cost $100,000. And Federal funds amounting to $128,000 have been allotted to Richmond for temporary grammar school buildings. Dragon & Schmidts of Berkeley have been appointed the architects.

THADDEUS JOY, ARCHITECT

Thaddeus Joy, 59, veteran California architect, died at his Berkeley home, 2816 Derby Street, December 3, following a long illness.

A native of Minneapolis, Minn., and a graduate of the University of California, Joy began his architectural career in San Francisco in 1910.

He designed many of the buildings on the William Randolph Hearts ranches at San Simeon and Wyntoon as a member of Miss Julia Morgan's staff.

LOS ANGELES CHAPTER NOTES

In spite of the chaotic condition of the profession today, the membership of the Southern California Chapter, A.I.A., in the short span of one year has gained 29 new members. The total of all classes has reached the highest point in fifty years of Chapter history. The action of the Institute in opening its membership to every reputable practicing architect in the country, implemented by the hard work of the membership committee, has in a great measure been responsible for the splendid increase.

"Russia and the World Today" was the subject, and Mr. Richard Atkinson guest speaker at the Chapter's annual social meeting, December 15. Mr. Atkinson, world traveler and writer on international affairs, especially pertaining to Russia, China and Japan, is past president of the Los Angeles Adventurers' Club and former member of the American Press Commission to Europe. He has traveled 25,000 miles to all corners of Russia and Siberia. Special guests at the social meeting included Colonel and Mrs. Rufus W. Putnam. Colonel Putnam is the District Engineer in charge of the United States Engineers' Office, Los Angeles.

Chapter officers nominated for 1943 are as follows: President, Samuel E. Lunden (and Member Delegate to 1943 A.I.A. Convention); Vice President, Herbert J. Powell; Secretary, William H. Harrison; Treasurer, Walter C. Wurdeman; Director, 3 years, Kenneth S. Wing.

The following is a list of Southern California Chapter members who are now in the military service:

Brigadier General Henry C. Newton, Assistant Director Armored Force Training Center, Fort Knox, Ky.

Lieut. Colonel Gordon B. Kaufmann, Chemical Warfare Division, Washington, D. C.

Major Donald B. Parkinson, Assistant to Area Engineer, Phoenix, Arizona.

Captain Burnett C. Turner, United States Engineering Dept., Los Angeles, California.

Captain Harold G. Spielman, Engineer Corps, Arlington (near Riverside), California.

Captain Charles Fry, Air Corps U. S. Army, Ogden, Utah.

Lieutenant William S. McCay, U.S.N.R., Boston, Mass.

First Lieutenant Ben H. O'Conner, Marine Corps, Quantico, Virginia.

First Lieutenant Richard Cook (missing in action), Philippine Islands.

First Lieutenant Savo M. Stoshitch, U. S. Army (present address not know).

Le Roy Harris, Specialist Corps, Washington, D. C.

PRIORITIES FOR SACRAMENTO Y.W.C.A.

Classed perhaps with churches, the Y.W.C.A. at Sacramento has been granted priorities for the $18,000 addition designed by Charles F. Dean of Sacramento.

ASPHALT ROOFING HAS BIG YEAR

Production of asphalt roofing, the most widely used roofing material in this country by far, reached the highest mark in history during the nine month period, January through September, 1942, according to J. S. Bryant, managing director of the Asphalt Roofing Industry Bureau.

In the first three-quarters of this year, Bureau of Census figures show that 38,006,928 squares of asphalt roofing were shipped. (A square is the amount of roofing required to cover 100 square feet of roof area.) This was an increase of 23.4 per cent over the same period last year when 30,788,604 squares were shipped. Shipments for September were 5,439,967 squares, an increase of 5.6 per cent when compared with August, 1942, and an increase of 30 per cent when compared with September, 1941.

"The bulk of this considerable increase," according to Mr. Bryant, "was due to the use of asphalt roofing on military structures and war plants. Because of its high fire-resistance, availability and use largely of non-critical materials, asphalt shingles, asphalt roll roofing or asphalt built-up roofing have been used on most army barracks, warehouses, sheds and administrative buildings. Thousands of newly built war factories have also been protected against fire with asphalt roofs.

"In the residential field, mineral surfaced asphalt shingles are the chief roofing material used on defense houses of all types, including the new demountable houses recently erected on the Eastern seaboard," Mr. Bryant states. "Asphalt shingles and mineral surfaced roll roofing both lend themselves to pitched roofing because of their fire-resistance, their ease of application, and their variety of built-in colors.

"Unfortunately, the weather makes no concessions for war. For, in addition to this intensive war construction, the asphalt roofing industry has also had to maintain many of the roofs on the country's 30,000,000 civilian structures. A leaking roof too often leads to more serious impairment of health and property. In order to protect our homes, offices and factories against invasion by the elements, it is imperative that their roofs be maintained."

CINCINNATI WILL BE HOST

The 49th annual meeting of the American Society of Heating and Ventilating Engineers will provide a forum for the exchange of vital engineering information, according to the statement of President E. O. Eastwood, Seattle, who announced the time and place of the meeting—January 25-27, at Hotel Gibson, Cincinnati, Ohio.

The meetings committee has prepared a streamlined program which includes subjects of wartime interest, such as fuel conservation, food dehydration, manpower problems, warship ventilation and physiological studies affecting efficiency and health. A special panel discussion of the subject, "How to Keep Fit in Cold Homes," will be a feature of one session.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

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CHANGE

The first to feel the changing business cycles in peace times are the architects. Months before the statistical reports of acceleration or decline in business activity are published, every wide-awake architect has felt the public pulse throb more violently, or noted its decline in vigor. That experience holds true in wartime.

Indications are now unmistakable that the nation is entering upon a lesser phase of building activity. This is not to say that construction is coming to a dead stop. But it seems plain that the era of enormous creation of army camps, supply bases, and great manufacturing plants is coming to a close. From now on new camps will be established over-seas while the fresh recruits will take over the spots vacated by the first five million men in arms. The ammunition depots and rubber factories are not yet complete but the tremendous rush to provide shelter for men and war materials in the first few months of conflict has given way to a more routine expansion period. And the Willow Runs of the aviation industry are down to their business of turning out Fortresses and Liberators.

Even the housing situation, a headache still for many a family, has entered its second stage, in which the efficiency experts have switched from the prefabricated house to stock plans for row-houses or dormitories. If the plans do not fit the sites, there are always the tractors and bull dozers to make the sites fit the plans. And if the stock building does not fit the climate, then that is just too bad for those who must live in the buildings.

To be strictly realistic, there is one field of architectural activity which is, unhappily, but in its beginning. The first streams of casualties are arriving home from overseas, and if ever an architect's talents are necessary, it is when he is preparing places for the men to regain some of the strength they have given for their country. Experience tells us that the hospitals will be in use long after the last shot of battle has been fired. They had better be good.

Sir Ernest Simon

An encouraging picture of what may be done in the rebuilding of our blighted areas was described by Sir Ernest D. Simon, Kt., in his discussion at the San Francisco Museum of Art on November 16th. Sir Ernest is a man of ready wit and good nature, who violates one of the traditional principles of a man far from his home: he refuses to pose as an expert. His statement that one-fourth of the dwellings in his country had been destroyed or damaged in the bombing of England was no more surprising than was his expressed belief that in the decade following the war that possibly a third of the substandard English dwellings would be replaced by decent habitations. A thirty year plan to clear the whole of England from slum conditions is now well started. The bombs have toppled more in England than its walls of stone.

Sea Bees

Recent public disclosure of Navy plans are of particular interest to the younger men in the construction industry who are not yet in the service and to architects and engineers who are worrying about their personnel problems. Commander Macrae, at the Producer's Council dinner, and Lt. Commander Godwin, at the Building Industry Conference Board luncheon, outlined the plans of the Navy Engineering Corps to expand its activities and staff.

The Navy is particularly on the alert to interest men who have had active field responsibility in construction. As our over-seas activities expand a tremendous need will arise for men with the energy and know-how to build and replace landing facilities, docks, shore establishments and depots, bridges, and a hundred other kinds of structures.

Opportunities for commissions are open to those who can convince the Navy that they have the training and energy to deliver. The Navy holds out the promise of a hard life—but an interesting one.

Personals

Harry Michelson, architect, has returned to San Francisco after nine months in Utah where he was engaged in the design and construction of a large Army base.

Alton B. Lee, architect, and Steve Allen, lately in the office of Blanchard, Maher and Ward, San Francisco, have been commissioned recently as Lieutenants, Junior Grade, in the Navy. Allen is in a specialist training school in Arizona, while Lee is reporting at present to Treasure Island in San Francisco Bay.

William W. Wurster, architect, plans to spend the next four or six months in post graduate work at Harvard University, Cambridge, Mass.

NEW HOUSING AND WPB STANDARDS

All new war housing to be constructed must comply with War Production Board standards recently established in Washington, D. C., Eugene Weston, Jr., Regional Representative of the National Housing Agency, has announced after receiving advices from John B. Blandford, Jr., NHA Administrator.

Mr. Weston said that the new standards provide for a minimum use of lumber and other critical materials, at the same time assuring adequate shelter, sanitary heating and utility facilities.

Since no housing can today be constructed except for war workers and their families, the standards provide a basis for private enterprise to continue to produce a large part of the essential war housing.

While Mr. Weston pointed out that any builder not conforming with the building construction standards will be denied further priority assistance, he said that certain adjustment considerations will be given to fit local labor and material supplies of the communities.

"Through close supervision of local war housing building," Weston declared, "the Government can assure the maximum utilization of materials and man power available.

"We may expect to see a limitation in the selection of building sites in order to fully utilize all electric, water and gas services with the minimum construction of connecting facilities."

Mr. Weston also said to expect a reduction in the size of the average dwelling unit to conserve materials required for construction and heating.

"E" AWARD FOR COLUMBIA STEEL

At the Pittsburg plant of Columbia Steel Company, Saturday, December 19th, Rear Admiral W. L. Friedell, commandant of the Mare Island Navy Yard, presented the Army-Navy "E" award to employees of Columbia Steel Company.

The coveted award, which signifies excellence in production, was the highlight of an afternoon of special ceremonies held publicly in the sheet and tin mill parking area, an open-air site adjacent to the company's Pittsburg works.

Participating in the presentation ceremonies were high ranking Army and Navy officers, the Camp Stoneman Band, a U. S. Marine Corps color guard, civic leaders, and Columbia Steel Company employees.

W. A. Ross, president of Columbia Steel Company, accepted the award in behalf of employees.

Prior to the presentation ceremonies, military and naval officers and civic leaders attended a luncheon at the Los Medanos Hotel in Pittsburg.

Following the luncheon, a tour of the Pittsburg works, conducted by J. A. White, superintendent, was made by the visiting guests.

BRITAIN PLANS 30-YEAR BUILDING PROGRAM

Great Britain will launch a 30-year program of building and rebuilding to counteract an expected boom-and-depression cycle following the war, Sir Ernest Simon, British government official, has revealed.

"Our plans call for something never done in a democracy before—the rebuilding of our nation in one generation," Sir Ernest declared.

He said that 10,000,000 persons will be employed in the project, which will include the building of low rental units, construction of public buildings, roads and docks, and the rebuilding of bombed areas.

The slum areas of London will disappear when the program gets under way, he promised. Sir Ernest, former lord mayor of Manchester, is chairman of the committee on postwar planning of the ministry of works and planning.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

PLYWOOD—With the first edition of "Technique of Plywood" completely exhausted by demands of plywood engineers and specifiers, a second edition has now appeared. It contains in its addenda a chapter on "Strength and Deflection of Douglas Fir Plywood Under Loads at Right Angles to Face." The handbook with tables and charts is 250 pages, plastic bound and costs $2.50 per copy. Obtainable through I. F. Laucks, Inc., Dept. AE, Seattle, Wash.

WALL PANELS—Scores of government projects, thousands of housing units are being built faster, stronger and better than ever, this booklet states and goes on to prove the general utility and time saving qualities of interior wall and ceiling lining made by the Upson Company of Lockport, N. Y. Copies are free by writing to the company.

LIGHTING EQUIPMENT—The War Production Board has issued an order eliminating steel reflectors from fluorescent lighting equipment. Non-metallic reflector units are available from a number of manufacturers already. The Edwin P. Guth Company, 2603 Washington Ave., St. Louis, Mo., can supply literature on their new units.

FLOOR PATCH—Described in this folder is a new product, a ready-mixed floor patch that enables repairs to be quickly made to ruts and holes, and the floor used immediately without any time whatever being required for setting or hardening. No special skill is required, according to the manufacturers. Write the Flexrock Company, 23rd and Manning Streets, Philadelphia, Pa.

SIDING MATERIAL—Rags and resin have been combined into a war emergency building material substitute for corrugated steel sheets. Called corrugated asphalt siding, the product was recently placed on the market by the Celotex Corporation, Chicago, Ill., from whom literature is available. The sheets are hard, rigid and moisture-proof.

ALLOY STEEL DATA—A compact chart showing analyses, physical characteristics and applications of nineteen stainless steel, monel and nickel alloys has just been made available to engineers and architects. Furnished free by Cooper Alloy and Foundry Co., 210 Bloy Street, Hillside, N. J.

STEAM GENERATOR—A simple, compact efficient steam generator which needs only fuel and water for automatic operation and whose jet control furnishes feed water in direct proportion to the amount drawn off as steam, has been announced in new literature received from Super Mold Corporation, 407 N. Sacramento, Street, Lodi, Calif. Made in models from 10 to 70 h.p.

METAL CLAD SWITCHGEAR—Horizontal drawout metal clad switchgear in 100,000, 150,000 and 250,000 KVA capacities at 5000 and 15,000 volts is described and illustrated in a new 12-page publication, Catalog 1110, recently released by Roller-Smith Co., Bethlehem, Pa. Copies obtainable without charge by writing the company.

VENTILATING SYSTEMS—"ILG Fights its Second War" headlines a colorful new brochure now being distributed by Ilg Electric Ventilating Co., 2850 Crawford Ave., Chicago, Ill. Comprising a comprehensive picture of the nation's war efforts in 1917-18 and 1941-42, the booklet ties in the part the company is doing in the manufacture of its heating and ventilating equipment.

INDUSTRIAL DOORS—This folder gives information on recent designs of upward acting doors, rolling and sliding grilles and shows applications which substitute wood for metal. Those having difficulty finding substitutes for the protection of large openings will find this folder interesting. Write to Cornell Iron Works, Inc., 36th Ave. and 13th St., Long Island City, N. Y.

CORROSIRON — A trademarked name of Pacific Foundry Co., 3100 Nineteenth Street, San Francisco, Corrosiron is a high silicon corrosion-resistant cast iron containing in excess of 14.25 silicon. The valuable properties of fittings and equipment made from this material are described in a booklet which the company has made available to engineers. Another alloy, "Pyrocast," with high heat-resisting qualities is also described.

FUEL SAVING—"Do's and Don'ts of Fuel Saving" has been published as a contribution to fuel conservation by the Minneapolis-Honeywell Regulator Co. of Minneapolis, Min., from whom copies can be obtained. The company's engineers have accumulated valuable data on the use of fuel and heating plants under conditions which duplicate those in the average American home.

COMPETITION FOR MURAL DECORATION OF THE

LIBRARY OF THE MUSEUM OF FINE ARTS

SPRINGFIELD, MASSACHUSETTS, U. S. A.

Open to All Artists Resident in Canada, Mexico and the United States.

The Museum of Fine Arts, Springfield, Massachusetts, invites competition for one mural in an oil medium for the Library of the Museum which is situated on the southwest end of the Museum building.

AMOUNT OF AWARD

The sum of $4,500 is to be paid for this work which amount must cover the complete cost of execution and installation of the decorations.

COMPETITION JURY

The competition designs will be judged in Springfield, Massachusetts, by the Museum's Trustee Committee on the advice of a jury composed of the following:

Mr. Edward Rowan, Assistant Chief, Federal Works Agency,
Public Buildings Administration, Section of Fine Arts
Miss Margit Varga, Artist and Writer
Mr. Henry Varnum Poor, Artist
Mr. William Gropper, Artist
Mr. Forbes Watson, Art Critic

COMPETITION REQUIREMENTS

Designs must be submitted with carrying charges prepaid or they may be delivered in person to the office of the Museum of Fine Arts, 49 Chestnut Street, Springfield, Massachusetts, U. S. A. The closing date of the competition is May 24, 1943. All designs must be postmarked or in the hands of a carrier not later than that date.

The designs must not be signed. Each design submitted must be accompanied by a plain sealed envelope enclosing a 3"x5" card bearing the artist's name and address, typewritten or printed clearly. These envelopes will be numbered when received with the same numbers as the designs they accompany and will remain unopened until after selection of the design chosen for award.

All participants will be advised after the award has been made and envelopes are opened. All designs will be returned to participants C.O.D., unless the Museum of Fine Arts is otherwise advised in writing by the artists.

Should the winning design prove to be by an individual serving in the Armed Forces, arrangements will be made for the execution of the mural after his release from such duties.

All inquiries for further information should be addressed to: **Frederick B. Robinson, Director, Museum of Fine Arts, Springfield, Massachusetts.**

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San ·ancisco and the Bay District. There may be ight fluctuation of prices in the interior and uthern part of the state. Freight cartage, least, must be added in figuring country ork.

ond—1½% amount of contract.
Government work ¾%.

rickwork—

Common, $40 to $45 per 1000 laid, (according to class of work).

Face, $90 to $100 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.00 lin. ft.

Brick Veneer on frame buildings, $1.00 sq. ft.

Common f.o.b. cars, $15.00 at yard. Cartage extra.

Face, f.o.b. cars, $40.00 to $60.00 per 1000, carload lots.

uilding Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

oncrete Aggregates—

GRAVEL (all sizes) $1.45 per ton at bunker; delivered to any point in S. F. County $1.85.

	Bunker	Delivered
Top sand	$1.45	$1.85
Concrete mix	1.45	1.85
Crushed rock, ¼ to ¾	1.60	2.00
Crushed rock, ¾ to 1½	1.60	2.00
Roofing gravel	1.60	2.00
City gravel	1.45	1.85
River sand	1.50	1.90

Bank sand—$1.00 per cubic yard at bunker or delivered.

ND—	Bunker	Delivered
River sand	$1.50	$1.85
Lapis (Nos. 2 & 4)	2.00	2.40
Olympia Nos. 1 & 2	1.80	2.20
Healdsburg plaster sand	$1.80 and $2.20	
Del Monte white	50c per sack	

Common cement (all brands, paper sacks) carload lots $2.52 per bbl. f.o.b. car; delivered, $2.80; less than carloads delivered, 70c per sack.

Cash discount on carload lots, 10c a barrel, 10th Prox.; cash discount less than carload lots, 2%.

les White, slaveres White, edusa White — 1 to 100 sacks, $2.00 sack, warehouse or delivery.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13/16x2¼" T&G	⅝x2" T&G	⅝x2" Sq.Ed.
Clr. Otd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$43.00 per M
No. 2 common	41.00 per M
Select O. P. common	46.00 per M
2x4 No. 3 form lumber	32.00 per M
1x4 No. 2 flooring VG	90.00 per M
1x4 No. 3 flooring VG	85.00 per M
1x6 No. 2 flooring VG	96.00 per M
1¼x4 and 6, No. 2 flooring	95.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	48.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.45 per bdle.

Plywood—Douglas Fir (add cartage)—

"Plyscord" sheathing (unsanded) ⅜" 3-ply and 48"x96"	$39.75 per M
"Plywall" (wallboard grade)— ¼" 3-ply 48"x96"	$43.70 per M
"Plyform" (concrete form grade)— ⅝" 5-ply 48"x96"	$117.30 per M
Exterior Plywood Siding— ½" 5-ply Fir	$132.00 per M
Redwood (Rustic) 1"x8" clear heart	$ 95.00 per M

$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $120.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot. Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, 65c per gal., in 5 gal. cans, and 55c per gal. in drums.
Raw Linseed Oil—95c gal. in light drums.
Boiled Linseed Oil—98c gal. in drums and $1.08 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11¾c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12½c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11¾c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12½c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12¾c
500 lbs. and less than 1 ton	13c
Less than 500 lb. lots	13½c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.50
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	.72
3 coats, metal lath and plaster	1.25
Keene cement on metal lath	1.30
Ceilings with ¾ hot roll channels metal lath (lathed only)	.90
Ceilings with ¾ hot roll channels metal lath plastered	1.80
Single partition ¾ channel lath 1 side (lath only	.85
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	1.70
4-inch double partition ¾ channel lath 2 sides plastered	3.30
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	2.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	3.40
3 coats over 1" Thermax nailed to one side wood studs or joists	1.25
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000.	
2.5-lb. metal lath (dipped)	.19
2.5-lb. metal lath (galvanized)	.21
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.24

¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $19.50 ton.

Plasterers Wage Scale	$1.67 per hour
Lathers Wage Scale	1.60 per hour
Hod Carriers Wage Scale	1.40 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure ..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure ..... 12.
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardwa
$1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except f defense work)

$150 ton (erected), this quotation is average for comparatively small qua tities. Light truss work higher. Pla beams and column work in large qua tities $140 per ton.

Steel Reinforcing (None available except f defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in plac
Sandstone, average Blue, $4.00. Bai
$3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. place.

Store Fronts—

Copper sash bars for store fronts, corn center and around sides, will avera
$1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealer
Asphalt Tile—18c to 28c per sq. ft. stalled.

Wall Tile—

Glazed Terra Cotta Wall Units (single face laid in place—approximate prices:

2 x 6 x 12	$1.00 sq.
4 x 6 x 12	1.15 sq.
2 x 8 x 16	1.10 sq.
4 x 8 x 16	1.30 sq.

Venetian Blinds—

40c per square foot and up. Installati extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1942 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

*6-hour day **7-hour day

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stock
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.75	* 2.00	* 1.79-1/6	* 1.75	* 1.75
BRICKLAYERS' HODCARRIERS	* 1.35	* 1.25	* 1.05	* 1.25	* 1.05	* 1.35	* 1.35	* 1.40	* 1.14
CARPENTERS	1.37½	1.37½	1.25	1.37½	1.25	1.25	1.37½	1.25	1.25
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37½
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodman	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.60	* 1.75	* 1.75	* 1.50	* 1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	** 1.37½	** 1.50	** 1.28-4/7	** 1.37½	1.25	** 1.35-5/7	** 1.42-6/7	** 1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	* 1.66-2/3	* 1.66-2/3	* 1.75	* 1.66-2/3	1.75	* 2.00	* 2.00	* 1.75	* 1.83-
PLASTERERS' HODCARRIERS	* 1.50	* 1.45	* 1.40	* 1.40	* 1.18¾	* 1.35	* 1.75	* 1.40	* 1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	* 1.50	* 1.75	1.50	* 1.75	* 1.75	* 1.50	1.75	* 1.75	* 1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

ARCHITECTS—THEIR LATEST ADDRESSES

Henry E. Bean from 1065 Queen Anne Place, Los Angeles, to 1136½ Menlo Avenue, same city.

Mario F. Corbett from 222 South Amalfi Drive, Santa Monica to 576 Erskine, Pacific Palisades, California.

Roland H. Crawford from 9397 Wilshire Blvd., Beverly Hills to 821 Highview Ave., Manhattan Beach, California.

Clarence C. Dakin from General Delivery, Culver City, to 10823 Braddock Drive, same city.

Russell Guerne DeLappe moved from 5460 Carlton Street, Oakland to 564 Market Street, San Francisco.

Hiram J. Hamer from 8373 Beverly Boulevard, Los Angeles, to 4250 Rodeo Road, same city.

W. Herbert from 1033 Austin Way, Medford, Oregon, to 2 Norby Apts., 702 Water Street, Port Townsend, Washington.

Pierce Horrocks from 805 Lowman Bldg., Seattle, Washington to Empire Building, same city.

Paul W. Jones from 1628 Ninth Street, South, Fargo, North Dakota, to 718 Colorado Avenue, La Junta, Colorado.

Donald B. Kirby from Balboa Island, California, to 130 Sycamore, San Mateo.

Washington J. Miller from 926 Howard Street, San Francisco to 715 Leavenworth Street.

William Arthur Newman from 1108 Latham Square Building, Oakland, to 155 Alvarado Road, Berkeley.

Donald P. Smith from 627 Rowell Building, Fresno, to Route 2, Box 670EE, same city.

Edwin L. Snyder from Carmel to 618 Ruker, Salinas.

Frederick L. Swartz from 518 Brix Building, Fresno, to 1022 Cambridge Avenue, same city.

Paul R. Williams from 3839 Wilshire Boulevard, Los Angeles, to studio 1271 West 35th Street, same city.

MORE PRODUCTION RECORDS FOR COLUMBIA

Five new production records were established by the Columbia Steel Company, subsidiary of the United States Steel Corporation, during the month of October in the company's Pittsburg, California, works.

In the plant foundry, which is working almost entirely on ship castings, shipments were 12.6% above those of any previous month, while actual production in this department was up 8%.

Production of hot metal for ingots and castings increased 7.4% during the month of October. Drawn wire was up 3.6% and the production of welding wire for West Coast shipyards was 6.5% over the previous record.

A slight increase in the production of all types of nails was also recorded by the company.

APPOINTED U.S.O. COUNSELOR

Robert S. Hutchins, architect, formerly of Gridley, more recently of New York, has been appointed building counselor for the U.S.O. He is in charge of selecting sites and facilities of all New England and parts of the Atlantic coast as far south as Virginia.

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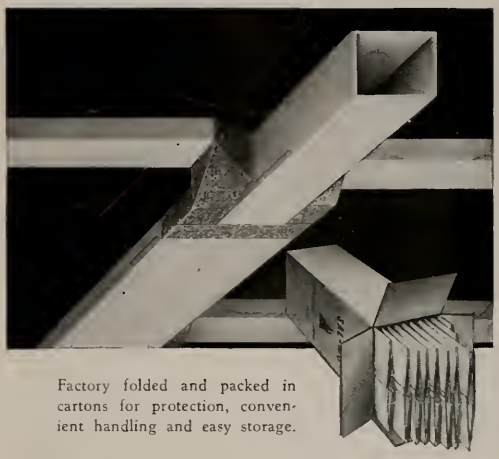

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NAPA, CALIFORNIA

S. F. ENGINEER, 80, COMES BACK FOR WAR JOB

Hayden H. Tracy, San Francisco engineer, has demonstrated that a new life may begin at two times forty when one's country is at war.

Nicknamed "Little Father Time" by his associates, Tracy is at work in the Marin shipyard at Sausalito, after a layoff of 20 years and at the age of 80.

Tracy, head of the Track Engineering Co. in San Francisco for many years, had been retired for two decades when Japan struck at Pearl Harbor. Unwilling to loaf when his talents were needed, he made the rounds of the war industries in the bay area and filled out applications for employment. Personnel directors stared at the age he had listed, gulped, promised to "get in touch with him." They never did.

When the Marin shipyard started operations early last summer Tracy tried a different tack in applying for a job. Asked for his age, he grinned and swore he couldn't remember the date of his birth. His qualifications were so obvious, however, that the company winked at his evasion and put him to work in the blueprint department of the hull engineering division.

Eight hours a day, six days a week "Little Father Time" makes lists of materials required for the construction of liberty ships gliding down the ways of the yard. But that's only the routine part of his duties. Much of his time is spent advising younger engineers on problems that have stumped them. They respect him for his store of practical knowledge and his standing as a graduate of Worcester Polytechnic Institute and Cornell University.

Riding to work in a car-sharing club, Tracy, in contrast to younger men on the job, rarely misses a day. He appears a little astonished himself that he does not tire readily but attributes it to his rugged Vermont ancestry. "I feel as good as new," he says.

"Little Father Time" is a prime favorite among women workers at Marinship and seems to have lifted the morale of the entire plant. He warmly approves of women in war industry and thinks they will make excellent engineers. "Look at 'em," he says. "Cute, aren't they, and smart, too. Is it any wonder I like it here?"

MORE WESTERN HOUSING PROJECTS

Through a streamlining of procedures, war housing projects are decided upon and approved within 25 hours after a National Housing Agency committee arrives in a community.

"Within sixty days after each project is started, the houses should be ready for occupancy," said Eugene Weston, Jr., regional representative of the National Housing Agency.

This direct and immediate approach to a critical housing problem in nonferous metal mining and smelting communities of California and Arizona has been

made possible, Weston said, through close cooperation of war agencies, and improved methods of fabrications.

Through joint agreement by the War Manpower Commission, the War Production Board and the National Housing Agency, 40 units in Livermore, California, and 1182 units in Arizona located at Globe-Miami, Morenci, Bisbee, and Ajo have been definitely assigned. The first units will be ready for occupancy by Jan. 15.

Weston said that housing programs also are being planned at Luning, Nevada, and Bishop, California, but details are not ready for announcement.

"According to the plan followed in these instances," Weston declared, "the War Production Board granted a blanket priority certificate for materials for the needed housing before the specific projects were programmed.

"The NHA made $8,000,000 of its funds available to finance construction nationally. The War Manpower Commission and the NHA each sent a representative to the states concerned to visit together the communities where housing was needed. The Federal Public Housing Authority regional representative, who would be in charge of constructing and managing each project, accompanied the other officials and generally took along his architect and a surveyor."

The houses are temporary, row-type construction containing from one to three bedrooms each and will go a long way toward relieving critical housing conditions in these vital nonferrous mining areas.

"PRAISE THE LORD AND PASS THE 'LUMINATION"*

By Carl W. Maedje

Down went production—a bottleneck its fate.
Down went production—too little and too late.
Up jumped the sight-pilot—he made a lighting check
And manned a turret lathe as he bombed a bottleneck
. . . shouting:
Praise the Lord, and pass the 'lumination!
Praise the Lord, and pass the 'lumination!
Praise the Lord, and pass the 'lumination—So we all can see.
Praise the Lord, and raise the lighting ration.
Can't afford to grope at each location.
Praise the Lord, we're all between damnation
And the deep blue sea.
The light pilot said it. You gotta give him credit.
For a son of a gun of bomber is he . . . shouting:
Praise the Lord. His light's our inspiriation.
All aboard. Let's have no hesitation.
Praise the Lord. And pass the 'lumination.
And we'll all be free.

*To be sung to time of the currently popular war song of nearly the same title and with apologies to composer Frank Laesser.

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Made of non-priority materials, these durable vitreous china sinks offer many outstanding advantages for all present day authorized installations and replacements. Their smooth, gleaming white surfaces are acid proof and stain proof. They are easy to clean and will not crack under sudden temperature changes.

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ALBERT KAHN, ARCHITECT

Albert Kahn, world famous architect and one of the foremost designers of wartime structures, died in Detroit on December 7 after a week's illness. He was 74 years old.

In a career that reached many peaks, Mr. Kahn's last few years contributed materially to the country's defense preparations, with designs for such structures as the Wright Aeronautical Corporation engine plant near Cincinnati, and the Ford Willow Run bomber plant. These and some of his other achievements were described in the February, 1942 Architect and Engineer. Included was a map showing the 33 foreign cities where Albert Kahn buildings have been constructed.

Mr. Kahn was the eldest of his family, being a brother of Felix Kahn of San Francisco.

PLASTICS FOR WAR AND PEACE

With a special preview for members of the Museum and for leaders in Baltimore's war industries and the nation's plastic industries, the Baltimore Museum of Art and the Plastics Industries Technical Institute will open an exhibition entitled "Plastics for War and Peace," next January 7.

The exhibition is being given in recognition of the fact that plastics have come of age. The aura of glamour and mystery that has surrounded their growth, and the stigma of the word "synthetic," are disappearing as plastics fill a growing and practical role in the manufacture of the equipment for war.

Plastics in war have become as vital as metals. There is hardly a piece of equipment being used by our armed forces that does not utilize plastics in some way. The same can be said of the tools of war workers, from transparent protective masks to self-lubricating gear wheels. The urgency of war has hastened by years the development of plastics, and wartime expansion of the plastics industries will facilitate the spread of the new materials when peace comes.

In the world of peace the use of plastics is certain to become more and more universal. Because they can be made to order, with almost any combination of properties the chemist desires, they should supercede most natural materials, over whose formation man has no control. They can be made as beautiful as metals, stones and woods, and in many cases, stronger, more enduring and less expensive. The years after the war may well usher in the plastic age.

The exhibition at the Museum of Art stresses these two facts: that the war has proved the merits of plastics, not as substitutes, but as independent materials; and that the peace will see the spread of plastics into every phase of our lives, not because they are "modern" and smart, but because they are, or can be made, better than most natural materials.

Plastics for war are typified by the Plexiglas nose of a Martin B-26 bomber (Rohm and Haas Co.), the key exhibit in the show. The Glenn L. Martin Co. has

contributed a complete model B-26, showing the various plastic parts, which are largely thermosetting phenols, as well as an antenna mast, wing and aileron tabs, luminous instrument panel name plates and other parts of the bomber. There is also a Comprog aircraft propeller blade (Engineering & Research Corp.) As the armed forces need every finished product that comes from the factories, few completed tools of war are exhibited. Instead the exhibition shows the raw materials from which war equipment is made. A continuous movie (U.S. Plywood Co.) explains the manufacture of the plastic plywood which goes into training planes, gliders, navy patrol torpedo boats, floating ramps and pontoon bridges. Other exhibits outline the transformation of raw materials into phenols for gun and bayonet grips, into resin-impregnated fabrics for the lining of steel combat helmets, into cellulose acetates for gas masks.

Plastics for peace, symbolized by a photograph of Henry Ford's all-plastic car, include such articles of tomorrow as zippers, transparent oil cans, football helmets, lamp shades, poker chips. The bedroom of tomorrow may be lined with transparent plastic wall tiles, lighted in any color from behind, with plastic textiles and draperies, rugs and furniture. Summing up the potential usefulness to the civilian of plastics, and their wartime preciousness, is an exhibit from National Plastics Co.: a pair of Nylon stockings and a plastic rubber tire, both secure in a Lucite safe.

GENERAL CONTRACTORS' 1943 OFFICERS

B. F. Modglin of MacDonald & Kahn, Inc., of San Francisco, has been elected president of the Associated General Contractors of America, Northern California Chapter, succeeding Oscar Fredrickson of the Fredrickson & Watson Construction Company of Oakland. Howard G. Huntley of Piazza & Huntley, San Jose, was elected vice-president, and Floyd O. Booe, general manager.

Modglin, Huntley & Fredrickson, together with the following, will also serve as members of the board of directors: M. H. Harkins, Oakland Sewer Construction Company; Charles L. Harney of San Francisco, David A. Hemstreet of Hemstreet & Bell, Marysville, H. C. Maginn of the Calaveras Cement Company, San Francisco, and Fred Q. Teichert of A. Teichert & Sons, Sacramento.

A telegram was sent to Governor-elect Earl Warren, congratulating him on the selection of Charles Purcell as State Director of Works, and to Purcell himself on his appointment.

JOINS THE "SEABEES"

Chris. W. Runge, architect, lately in the office of Austin W. Earl, engineer, in San Francisco, has joined the Navy "Seabees" and reported for duty on December 18, with rating as Chief Machinist Mate. He will receive his preliminary training at Norfolk, Va.

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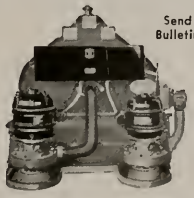

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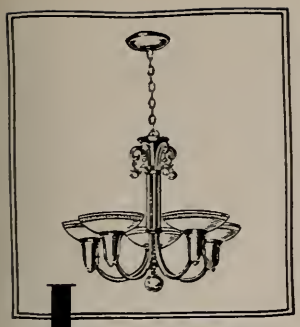

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THE BOSTON FIRE TRAGEDY

According to a statement by Robert S. Moulton, Technical Secretary, National Fire Protection Association; Secretary, N. F. P. A. Committee on Safety to Life, the Cocoanut Grove Night Club tragedy in Boston, November 28, was clearly due to gross violation of several of the fundamental principles of fire safety which have been demonstrated by years of experience and which should be well known to everybody. Quoting Mr. Morton: "It is too soon as yet to determine the responsibility, to evaluate the part that may have been played by the chaotic condition of Boston's building laws, incompetent enforcement, political influence and careless management, but the main lessons are clear.

"A night club is essentially a place of public assembly in the same life hazard class with a theatre but having greater possibilities of fire. As a result of the Iroquois Theatre fire in Chicago in 1903 when 602 people were burned to death, theatres in the United States are well regulated by fire laws.

"Automatic sprinklers are required over combustible stage scenery, adequate exits are required and regular inspections are made in accordance with the law to make sure that exits are free and unobstructed and that all fire precautions are observed. No such safeguards have been applied to night clubs which are far more dangerous than theatres. Night clubs commonly are located in old buildings made over for the purpose and practically every known rule of fire safety is violated. The Cocoanut Grove building was certainly no worse than hundreds of other night clubs located throughout the United States. (San Francisco experienced a somewhat similar, but not nearly as disastrous, night club fire a few years ago which resulted in a wholesale clean up of the clubs and a rigid enforcement of local fire prevention regulations.)

"The most glaring feature of this tragedy was the lack of proper exits. The National Fire Protection Association in its Building Exits Code, which is a well recognized standard prepar-

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ed by a representative committee of national experts, contains in its provisions on places of public assembly a number of basic requirements which, if observed, would clearly have prevented this tragedy.

"Revolving doors have long been considered by the N.F.P.A. Committee on Safety to Life as a menace under fire and panic conditions. Even though a revolving door may be of the so-called 'collapsible' type, it can readily serve as a death trap. The N.F.P.A. Building Exits Code prohibits revolving doors as required means of exit in places of public assembly and further specifies that if revolving doors are used there must be a swinging door immediately adjoining or within 20 feet. In our opinion revolving doors should be prohibited in all places of public assembly.

"Reports indicate that there were other doors from this building which might have served as exits but which were locked and one important door was hidden by drapes."

"Combustible decorations used in the club rooms can be flameproofed but effective flameproofing requires careful treatment and at best no chemical treatment of combustible materials actually makes them fireproof. Some chemicals used for flameproofing may generate noxious smoke when heated and according to reports this may have been an important factor in this fire. The N.F.P.A. has published standards on the flameproofing of combustible materials but advises against placing too much reliance on such treatments."

DWELLINGS FOR NON-FERROUS MINERS

Copper miners and other non-ferrous miners in Arizona and Nevada, are to be provided dwelling units in those mining communities short of housing, Eugene Weston, Jr., architect of Los Angeles and Regional Representative of the National Housing Agency, has announced.

Upon advices from John B. Blandford, Jr., National Administrator of the National Housing Agency, Weston said that Federal funds have been made available for construction of

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2000 dwelling units in the states of Arizona and Nevada, as well as Colorado, Idaho, New Mexico, Utah and Wyoming.

The allocation of units for mining communities in Arizona and Nevada as well as the other states, is now being determined in the field by a committee of Washington representatives from the National Housing Agency, Federal Public Housing Authority, the War Production Board, and the War Manpower Commission.

"This is the first time," Weston said, "that housing programming has been undertaken to provide definite facilities to meet specific needs.

"Actual determination of housing requirements is made in the field and the WPB representative allocates materials for building the units in separate mining communities at the time of the survey."

To cover construction costs, Weston said that John B. Blandford, Jr., Administrator, has allocated $5,000,000 to the Federal Public Housing authority, a unit of the NHA, which will build the new accommodations.

This emergency program, Weston pointed out, was started to alleviate conditions in certain mining communities where critical housing shortages threaten to interfere with production of essential nonferrous metals.

CAMOUFLAGE PAINTS

New Government standard specifications have been established for the manufacture of blackout, luminous, and camouflage paints. Nine colors have been selected for paints used in general camouflage to conceal and protect factories, arsenals, and other such objectives in this country. The Bureau of Mines is now conducting a survey to determine available sources of minerals essential in the preparation of these paints.—Industrial Standardization.

RECLAMATION PROJECTS

Three Bureau of Reclamation irrigation projects in the Far West, centers for Japanese evacuees from the Pacific Coast, and another for the development of guayule will continue to be constructed under certain limitations, according to advices from Secretary of the Interior Harold L. Ickes.

Permission was also granted by the WPB Facility Review Committee, it was stated, for completion of a housing project of 140 family units at Boulder City, Nev. Work on an additional 71 units was ordered stopped.

Among the projects on which work may proceed within certain limits are: Klamath, California; Minidoka, Idaho; and Shoshone, Wyoming. These embrace irrigation facilities for War Relocation Centers. Additional irrigation facilities are needed for the support of the Japanese evacuees in these centers.

Three of the irrigation projects may continue, it was stated, only to the extent necessary to provide work and sustenance for Japanese evacuees under the supervision of the War Relocation Authority.

The project at Gila is approved only to the extent necessary for the development of guayule. Construction on the project is in progress which will make possible 30,000 acres of irrigated land for guayule rubber in 1943-44. More than 100,000 acres could be made available within a few years, it was declared.

GAS FLOOR FURNACES

Standard minimum specifications for gas floor furnaces of the gravity circulating type have been approved by the American Standards Association (Commercial Standard CS99-42). With the latest American Standard Approval Requirements for Central Heating Gas Appliances (ASA.: Z21.13-1940) as basic prerequisites, this standard covers construction and installation requirements for gravity circulating type gas floor furnaces, including those having single or dual wall register outlets, for use with natural, manufactured, mixed and liquefied petroleum gases. This new standard, which was developed by the National Bureau of Standards, includes the sizing, placement, general installation requirements, venting, gas connections and methods of certifying compliance with the standard.

Note: Review copy of this standard available on request.

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UNIVERSITY EXTENSION

Indicating a busy calendar of opening January and February classes, schedules of the Extension Division of the University of California will list courses in 136 subjects, a majority of them directed toward increasing the war effort.

In addition to large groups of classes on the University of California campus in Berkeley, both downtown San Francisco and Oakland have Extension Centers conveniently located at 540 Powell Street, in San Francisco, and at 1730 Franklin Street in Oakland. Other cities in the Bay Area where extension courses are given include Alameda, San Leandro, Vallejo and Richmond.

Personnel in business and industry, teachers, public speakers, writers, engineers, homemakers, nurses and the many who are preparing for work in some field of war activity are among those who will find courses which have been directly programmed to their advantage.

A number of courses are listed for workers in shipbuilding, aircraft and other industries. Shop mathematics, engineering, blueprint reading and others stress this training.

A large group of courses in arts, letters, philosophy, history and science, with several being given for the first time, rounds out a fully active program. All courses, wherever possible, are stressing practicability and usefulness in national and individual progress toward the ideals of free thinking and free living Americans.

Dr. George F. Haller is instructing a course in fundamental problems of basic trades with particular emphasis on the defense industries and shipbuilding. Mathematical calculations used by machinist electricians, sheet metal workers, cabinet and wood workers, painters, shipfitters, welders, draftsmen, etc., will be studied. The course meets in San Francisco on Monday and Wednesday, January 11, at 540 Powell Street, and in Oakland on Tuesday and Thursday, January 12, at 1730 Franklin Street.

Classes meeting in San Francisco and Oakland beginning January 11 and in Berkeley beginning January 13 will be instructed in a refresher course in mathematics by Ivan C. Barker and Max Yulich. Arithmetic computation, geometry, and fundamentals of algebra will be studied.

Blueprint reading and engineering drawing courses will be given by Joseph S. Blum and Grover C. Polson. Simple geometric problems, construction of mechanical curves, lettering and its technique, projective drawing and rendering of working drawings of machine parts for drafting room and shop make up the course in Engineering Drawing. Mr. Polson gives this course in Oakland beginning Tuesday, January 12, 7-9 p.m., as well as the course in Blueprint Reading, beginning Thursday, January 14, 7-9 p.m.

Blueprint reading contains basic information necessary for interpretation of blueprints, the alphabet of lines, orthographic projection, relationship of views, and an understanding of dimensions. The course is planned for those in the fields of mechanics, trades and industries, and is of special interest to shipbuilders. Mr. Blum instructs a San Francisco class in this course, beginning Wednesday, January 27, 7-9 p.m.

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S

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University of Oregon, Medical School Center, Portland (Lawrence, Holford & Allyn) Nov. 21

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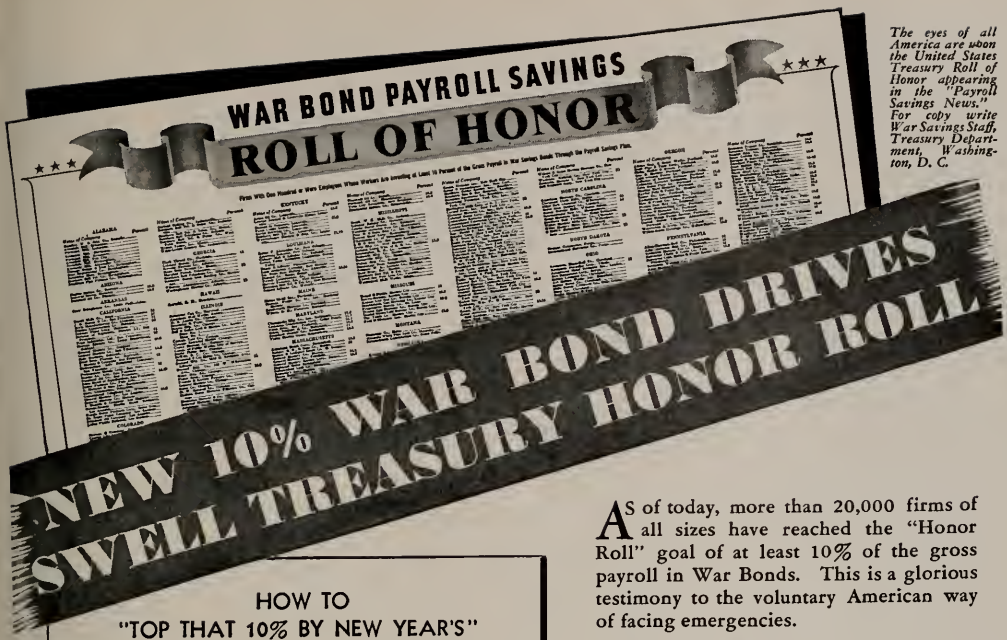

The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a tolk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

As of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

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You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

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ARCHITECT AND ENGINEER

JANUARY, 1943

Los Angeles Completes $16,000,000 War Housing Program

New Building Materials Will Influence Post War Design

Camouflage Becomes a Definite Technique

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We look to ARCHITECT and ENGINEER to do that very thing

Key Note
of a letter to the editor by

PAUL ROBINSON HUNTER, A.I.A.
Los Angeles

It undoubtedly expresses the sentiment of hundreds of architects now engaged in war work and who will be called upon to rebuild America when this war has been won

And that shall be the mission of this magazine for the duration, aided by support of its loyal advertisers

BUY MORE WAR STAMPS FOR VICTORY

ARCHITECT AND ENGINEER

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NEXT MONTH

Continuing our war housing series several pages will be devoted to the Vallejo Dormitories for single men and women employed at the Mare Island Navy yard. The 38 structures were built by the Farm Security Administration from plans by Vernon De Mars, District Architect for the FSA. The reader will discover many unique and unusual features embodied in the design of these war homes.

An engineering feature of timely interest next month will be an article on "The Resistance of Reinforced Concrete Structures to Air Attack," by J. Bertrand Wells, Professor of Civil Engineering at Stanford University. The problem of designing to resist air attacks, Professor Wells points out, is a very large one and it does not appear that at the present time we are justified in going beyond first class design and construction. Generally speaking, reinforced concrete has made a creditable showing under very severe bombing conditions in London.

Entrance Hall and Drawing Room, with windows overlooking the Golden Gate, of the new Girls' Dormitory, University of California at Berkeley. Architects were Corbett and MacMurray and William W. Wurster Associated. D. W. Durant Co. were the plumbers.

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RUNNING FIRE — By MARK DANIELS, A. I. A.

• *THE ARCHITECT'S FUTURE*

AS MR. BLANCHARD SEES IT

An architect trying to find the solution to the problem of how best to direct his training and talents in the present turmoil will likely wind up chasing his mental tail and biting things. We are told that young college professors, who have never swung anything heavier than a quill pen, are telling the Henry Kaisers how to build dams and ships; that the War and Navy departments are going to design all the domestic as well as other architecture in the country, a task which they have essayed and at which they have lamentably failed. Now, if the inexperienced professor is to tell the tried and true and experienced graduate how to do things he himself cannot do, how long will it be before those in authority go a step farther and let the sophomores determine the curriculum?

To get out of this mental tail spin I decided to ask a few of our leading architects to shed the light of their opinions on the whirling architectural future. The State Association has picked on Norman K. Blanchard, if you can call electing him president a form of picking. Perhaps he is not representative of the profession, for he is so busy showing the government how to solve the architectural problems they were going to work out all by themselves, that his outlook may be rosier than others. But it is a clear one.

"I don't believe," said Mr. Blanchard, "that the government is going to take over the profession. Nor will the contractors. I believe the practice of architecture will come back, but in a greatly modified form. In my opinion, the successful architects of the future will go in for group, community and city planning. They'll have to. The architects of most of the world are doing just that right now." In brief, Mr. Blanchard felt that the work of the architects would have to include far more collaboration; that the old practice of the individual designer planning a house or a building to suit himself and his client alone, would have to give way to group study. That would be paramount.

Mr. Blanchard had other well fixed opinions but this one alone is enough to stimulate some serious thought. The Russian architects and artists moved in on this group planning idea many years ago. Now they are well along the road Mr. Blanchard thinks we must start out on. So, here's another tail spin.

• *COMPETITIONS*

The ideal time for an architectural competition is when the people are ready to build and eager for new ideas, and the architects are looking for new work. As for the architects right now, some of them are looking for new work, old work, or just work. Many people are ready to build but before they can get priorities and the release of newly discovered and developed materials, the plans and specifications will have to be done over. Further, most of those architects who are not searching for work are very busy on war work of a type radically different from competition planning.

For several months the ARCHITECT & ENGINEER has been working on a plan for a competition, but interviews with the Coast architects have been discouraging. With so many offices closing or near closing, with the shipyards offering a financial way out, it was felt that to participate in a competition at this time would be hardly justifiable not only to the participant but to the project. The ARCHITECT & ENGINEER will, however, proceed with its plans when times seem more propitious.

• *MONOTONY*

The variety in the designs of our domestic architecture is not due entirely to differences in demand of our clients. By the same token it is not the necessity for different covering and protection from the elements that alone dictates changes in clothing. Few men wear the same color and style year in and year out. One reason is a desire to avoid monotony.

The same is true in architecture. When the architect had a more or less free hand in design he often varied the style to avoid monotony in a district. Instances where this was not done are plentiful in Philadelphia. But now we are threatened by a monotony of architecture, enforced by standardizations and regimentation, that will surpass the row houses of Philadelphia; a monotony of architecture that will serve only to emphasize the monotony of labor.

• *COMPOSITION*

There are many books on the theory of composition. Every course in the arts has an early series of lectures on the principles of composition. They are all valuable and enlightening and usually close with long talks about the great works and how the artists who produced them studied out their lines of length and depth along the lines of the "principles" before they set to work.

Perhaps they did, but whenever I read Poe's analysis of "The Raven" in his "Philosophy of Poetry" (or is it "The Philosophy of Verse") and how he first selected the long sonorous vowel "O," the dead motive, the love motive, and the consonant, "r," before he started the poem, I can't help but feel that the egg might have come before the hen.

• *T. L. M.*

The Little Man attacked his old fashion vigorously and tossed it off with the air of a conqueror. "Anyone," he said, as he gulped the cherry with a single bite, "can keep out of trouble by always doing exactly what he is told to do, but it takes a man of parts to ignore instructions and advices—and get away with it." A quick survey disclosed only empty glasses except at the end of the bar. Lifting my burning cigar from the ash tray, he continued, after a few puffs. "Smoking ruins the lungs. Drinking forms deadly habits. Reading ruins the eyes. Bathing is weakening. With the exception of this last I shall have none of these don'ts in my life. I am adamant. I shall never be the disgusting victim of the disgraceful habit of self denial." The arrival of my old fashion within his reach stopped him.

HUNTER

(Oil painting by Victor Tischler)

Tischler is a Viennese artist who, until the spring of 1941 when he came to this country, spent the greater part of his painting years in France. He is represented in galleries throughout Europe, and his works are presented to the American public for the first time in the current exhibition at the deYoung Museum, San Francisco.

ONE-MAN SHOW OPENS AT DE YOUNG MUSEUM

A new and outstanding exhibition scheduled to go on the walls of the De Young Museum this month is the one man showing of oils, watercolors and drawings by the Viennese artist, Victor Tischler.

Tischler's name is a new one to museum visitors in this country, the artist having spent his early years in his native city, later traveling through various countries on the continent in pursuance of his studies and painting. For the past fifteen years he has resided in France where he remained until after the French-German armistice. He was interned for six months and only after many difficulties did he finally reach the United States in the Spring of 1941. He is at present making his home in the southern part of California.

During his active years in Europe, Tischler was represented in numerous exhibitions; his paintings are included in the collection of French, Dutch and Austrian art galleries. The Tischler show opened at the De Young January 15.

ADDITION TO RODIN'S WORKS AT LEGION OF HONOR PALACE

To the extensive collection of the works of Auguste Rodin, for which the California Palace of the Legion of Honor is noted, have been added ten more works of the great master. The gift of Mrs. Alma Spreckels Awl, donor of the museum, the new additions include: Bronzes—Torso, Bust of Victor Hugo, Bust of Victor Hugo (small study), The Mighty Hand, Wounded Lion, Fugit Amor, Faun and Nymph, Man With the Broken Nose (small study); Marbles—Hand of Victor Huga, and Small Seated Female.

SAN FRANCISCO MUSEUM SHOWS SIGNIFICANT WORKS OF OREGON ARTISTS

Perhaps it is inevitable that a country as large as this should form, within its borders, several regions of more or less isolated artistic output. One could list a dozen districts of the United States in which the art produced is known to few outsiders. The larger museums often try to penetrate these regions by holding national exhibitions, but even these are limited because many artists do not care to risk the expense of transport to a juried show. Occasionally delegates of a museum will travel through various parts of the country to select works which appeal to them for one reason or another. But up to the present no museum has launched a systematic program for showing, in any concerted fashion, the most significant work produced by artists in many sections of the United States.

The present is excepted, because the San Francisco Museum of Art plans such a series of exhibitions. The first in this series, called Oregon Artists, opened at the Museum on the 12th of this month and will continue through February 9. This show includes work by nine leading painters and four outstanding sculptors of Oregon. These artists were selected by the Museum with the help of Portland Museum of Art.

What special qualities set a group of artists

apart as representing Oregon? Are they geographical, cultural? In his introduction to the catalog of the exhibition, Robert Tyler Davis, Director of the Portland Art Museum, writes: "The Columbia River draws an unmistakable line between Oregon and Washington, but geographically the whole Columbia basin might form a more logical unit. In a somewhat larger sense, the whole Pacific Northwest is a unit, easily differentiated from the rest of the nation and relatively homogeneous in resources and problems. But no matter where the regional limits are placed, the division is still geographical, whereas the artists are human beings."

"Again," he writes a little further on, "there is the cultural flavor which is a little different from that of any other section of the Pacific Northwest. Slightly more than a hundred years ago there were no white settlers. The first settlers, after the retired employees of the Hudson's Bay Company, were mainly from New England. They were simple and unpretentious, but soon had colleges and universities established all through the Valley. . . . It is impossible that the spiritual and mental, as well as the physical environment should leave the artist unaffected. . . . On the other hand, the environment is tremendously varied and the artists all individual human beings with their own sympathies and temperaments. The artists represented in this exhibition were chosen from among all those resident in Oregon, only because they seem to be those who have produced work of imaginative power. They are the ones who have seen, and felt, and found the means to express something which is their own. . . . It can only be said that when an art is produced which can be recognized as flavored by the region's physical characteristics and cultural traditions, it will be produced by artists whose first concern is imaginative creation, and who have absorbed the characteristics of their environment 'through the pores.'"

PAINTINGS AND DRAWINGS BY FOUR NEIGHBOR ARTISTS

An exhibition of paintings, drawings and prints by four leading artists of Latin America are on view at the San Francisco Museum of Art through February 9. The four artists are Oswaldo Guayasamin Calero, Susanna Guevara, Enrique Camino Brent, and Candido Portinari.

Guayasamin is not yet well known in this country, but his work is viewed enthusiastically by such distinguished Americans as Lincoln Kirstein and Rene d'Harnoncourt. D'Harnoncourt points out that Guayasamin sees Ecuador's Sierra Indians with an insight which comes of his being one himself. His pictures are not mere records made by an outsider. Guayasamin's early recognition by discerning Americans is reflected in the fact that he will soon have a scholarship for study in America.

Susanna Guevara's watercolors were made as a special series called "Childhood Memories of Chile." They were done, writes Miss Guevara, in an effort to escape from the horrible cry of war. Miss Guevara had already put in a distressing period in England during the Great War.

Enrique Camino Brent was born in Lima, Peru. He has devoted much of his time to the interpretation of Indian life in the central and southern mountain regions of Peru, and of Bolivia. After exhibiting in various parts of Peru and Argentina, Camino Brent was represented at the Exposition in San Francisco in 1940. His work is included in museum collections in various parts of South America, as well as in private collections in this country.

Candido Portinari of Brazil needs no introduction to Americans on this side of the Equator. His mural paintings and other works have been widely shown here in the past few years, most recently about a year ago at the San Francisco Museum.

"THE FORMATION OF TASTE"— A NEW COURSE BY MACAGY

Douglas MacAgy, Curator of the San Francisco

(Turn to next page)

"Diego and I," by Frieda Kahlo Rivera, an oil, from the Albert M. Bender Collection at the San Francisco Museum of Art.

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Museum of Art, will open a new course at the Museum to be called **The Formation of Taste.** In an effort to clarify questions of current taste, Mr. MacAgy will indicate the character of antecedent valuations and concepts of art. The changing relationship between patron and artist under the influences of politics, economics, philosophy, science and education will be traced from the 16th century to the present. The course will be illustrated by designs of city and countryside, of architecture, sculpture, painting, dress, and manners. There will be ten consecutive weekly meetings, (Thursdays) beginning January 21.

RARE TEXTILES BEING SHOWN AT DE YOUNG G. G. PARK MUSEUM

The De Young Museum is presently offering a unique opportunity to its visitors to study and enjoy some of the most beautiful textiles ever seen on the West Coast: the showing of a part of the collection of Mr. Adolph Loewi, who spent a great many years collecting rare specimens in Venice and who but recently has come to the United States to make his home. These various textiles cover a range of over five hundred years, the earliest pieces dating from the 13th century; work of the countries of Europe and the Near East are represented. The exhibition makes it possible to review the evolution of textiles from the Romanesque era to the days of the French Empire.

The earliest examples are, of course, shown only by small pieces which, however, are exceedingly scarce, having the value of a miniature or a piece of pottery of that time. Finest in this group is a fragment from an Arabian brocade showing two seated men drinking. Among the pieces from the Near East, the velvet caftan which once belonged to a Turkish Sultan is outstanding. Other early examples come from Spain and Palermo in Sicily where, under Moslem influence, weaving had reached its highest development.

Lucca in Tuscany, most important weaving center during the 14th century, is represented by subtle gold brocades combining Chinese motifs with the old traditions. Here one can witness the rise of a new era in art, the Gothic. From here on, Venice takes the lead; the rich velvets with which Renaissance painters such as Bellini, Giorgione and Raphael adorned their madonnas and saints are shown. To own a large pieceof green velvet with the pomegranate motif is the ambition of every textile collector: Mr. Loewi has found such a piece and it is displayed along with another velvet, a 15th century Venetian red cope carrying the same motif.

The De Young is extremely fortunate to be able to show such an abundance of rare textiles at one time; it is seldom that more than a few of these pieces can be gathered for a single exhibit. The public is urged to visit and enjoy this display which remains on view through the month.

Gold Rush Days, an aggregate of photographs of old homes at Coloma and Placerville (Hangtown) and other mementos of the days of '49 are on view through the month. Mrs. William H. Voiles has donated many of these old photos.

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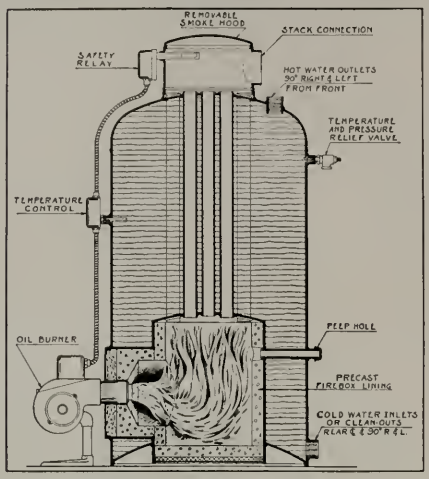
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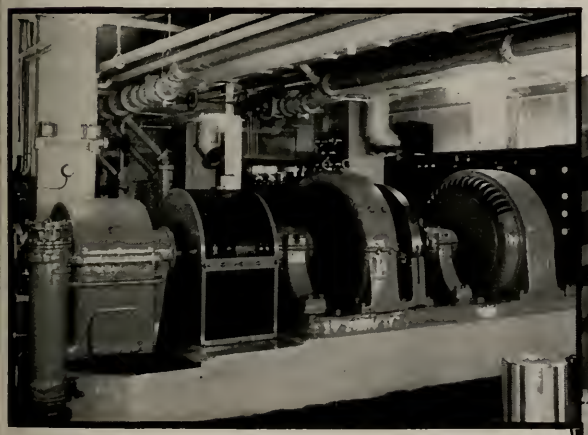

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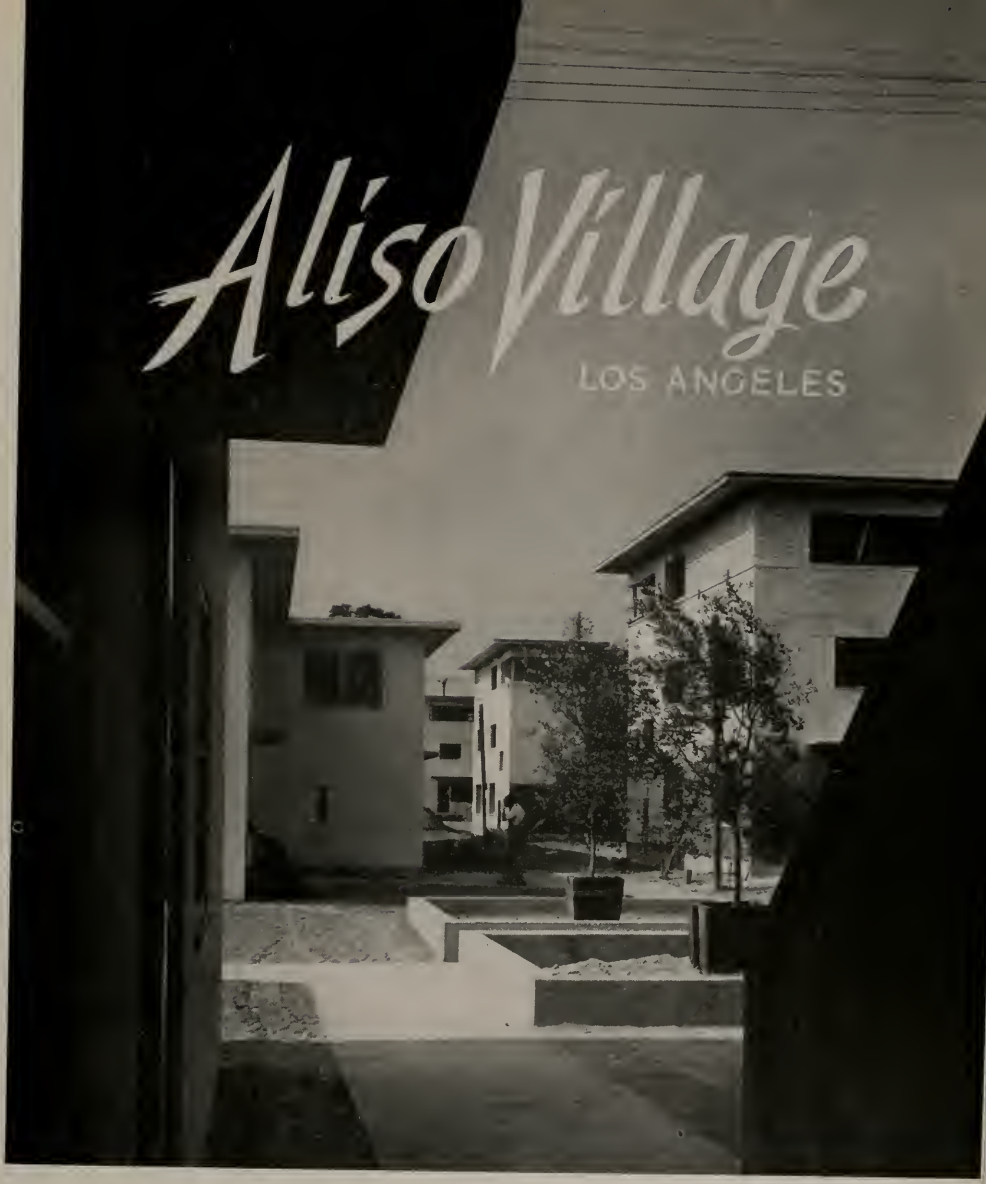
DETAIL OF "U" TYPE APARTMENT, ALISO VILLAGE, LOS ANGELES, CALIFORNIA
THERE ARE 12 BUILDINGS OF THIS TYPE, EACH CONTAINING 28 APARTMENTS



Aliso Village, largest low rent housing development in the war housing program of the City of Los Angeles, marks the completion of a $16,000,000 undertaking to provide 3,468 dwelling units for an estimated population of 13,300 persons.

Aliso Village is less than ten minutes' drive from the Los Angeles City Hall. It covers 34 acres and is bounded by East First Street, Mission Road and the Santa Ana Speedway. There are 802 homes in the village with a total of 248 one-bedroom units; 376 two bedrooms; 156 three bedrooms, and 22 units of four bedrooms. Each apartment has a living room, one to four bedrooms, a kitchen, dinette, private bath and toilet. Individual parking areas surround the homes and there is ample space for victory gardens and flowers. Rents start

Plot Plan, Aliso Village Housing Project, Los Angeles

Typical "U" Building Plan, Aliso Village Housing Project, Los Angeles

at $11 per month, ranging upward to $40, according to the net family income. Gas, lights, and water are included in this cost. To be eligible for Aliso Village homes, applicants must be American citizens, employed in a certified war industry and earning less than $1 per hour.

MOST OF TENANTS WAR WORKERS

With the exception of Ramona Gardens, built for low-income tenancy, all nine of the L. A. housing developments, originally planned for low-income groups, were converted to housing war workers and their families, after Pearl Harbor, when it became evident that the Los Angeles metropolitan area would be a concentrated war production center. For a period of 90 days, after completion of the developments, preference in tenant selection was given to war workers. In most instances, the projects were filled long before this time had elapsed.

ALISO VILLAGE SIZE OF A SMALL TOWN

Aliso Village is designed to accommodate over 3,000 persons. Three hundred eighty-seven substandard structures were removed from the site. The general contractor, R. E. Campbell Company, started operations February 23, 1942.

Planning of the project, as well as the design of the buildings, is distinctive. The dwelling units are arranged in court groups with houses fronting on the courts. This allows greater breadth of open area and more recreation space adjacent to buildings than could otherwise be obtained. Open passages, 60 feet in width, described as "ramadas," through buildings from one court to another, give a feeling of spaciousness and at the same time provide recreation areas for the tenants, shady and cool in summer, protected from rain in winter.

Diagonal parking areas in close proximity to the dwelling units form one-way directional lanes. For pedestrian use there is a broad tree-lined lane, about half a mile long, running through the entire development.

There are three general types of apartment buildings. Twelve are "U" type, each containing 28 apartments. They are three-story structures with brick masonry walls, reinforced concrete floors and stairways and wood framed

YPICAL ENTRANCE TO TWO STORY APARTMENTS. THERE ARE ELEVEN OF THESE BUILDINGS,
ACH CONTAINING 14 APARTMENTS. CONSTRUCTION IS FRAME AND STUCCO
VITH REINFORCED CONCRETE GROUND FLOORS

Playground and Recreation Center

"H" Type Apartments. Note Ramada Type of Construction (Open Passages Connecting Wings on Either Side of Court) Second Story Rests on Transverse Beams Supported by Piers

roofs. The partitions are two-inch cement plaster with metal studs and lath. Nine are "H" type with 32 apartments in each and eleven are "C" type, each containing 14 apartments. The latter are two-story frame and stucco buildings with reinforced concrete ground floors. Floor plans are varied according to types of buildings and orientation.

PREFABRICATED WALLS, PARTITIONS, STAIRS

Construction of the 20 two-story wood frame buildings was greatly facilitated by prefabrication of walls, partitions and stairways.

A mill equipped with a battery of saws for cutting lumber was erected adjacent to Clarence Street in the middle of the tract and a jig table 200 feet long, for prefabricating the wall and partition panels was set up alongside the roadway for convenience in handling material and hauling away the prefabricated units. The jigs had to be frequently changed as there were 237 different patterns required to conform to the variations in the plans for the different structures. Altogether 10,600 panels were assembled consuming approximately 900,000 board feet of lumber and requiring approximately 600 man-days of labor.

As the panels were taken off the jigs, each was marked to designate the building and the exact place into which it was to fit, before being stacked. The panels were made in various dimensions but none were too large to be lifted off a truck to the ground floor by hand. Being stiffened by the bracing against lateral forces and by fire stops, the panels retained their exact shape, so that when they were assembled in the building the walls and corners were true and no further work was involved. Window frames were omitted from the panels and were set in the openings after the buildings were under roof.

In erecting the panels the interior partitions were set up first with the assembly progressing to the outside walls and as each panel was of exact dimension, erection was not only facilitated but an excellent framing job resulted. The method of constructing the second floor with a box sill also was advantageous in that a level floor surface was assured by the joists being kept even with the top of the sill, any leveling necessary being done on the supporting wall plate.

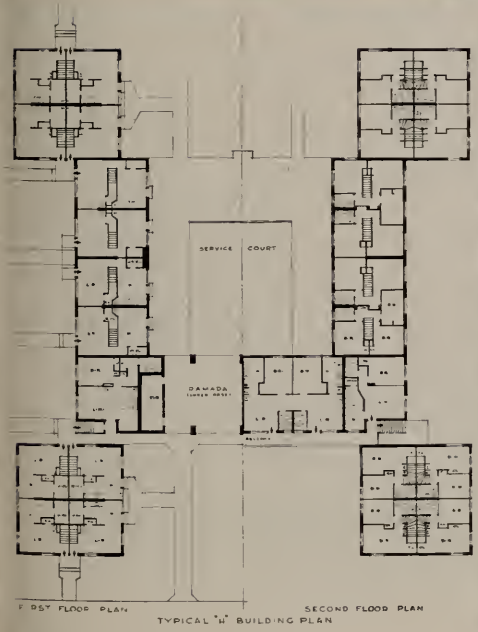
No, this is not a corral or chicken yard. Just a study in wire fences

Prefabrication of the wood stairs also not only saved time and labor but produced a

Balcony off second floor of brick apartments

Street View Shows Three Story "U" Type Apartments in Foreground Each Building Has 28 Apartments

Fleecy Foliage of Pepper Trees Add Color to the Landscaping



FIRST FLOOR PLAN SECOND FLOOR PLAN

TYPICAL "H" BUILDING PLAN

Spacious Lawns Will Improve Appearance of These "U" Buildings Of Which There Are Twelve

more satisfactory job than if they had been built in place. There are 186 straight stairways and 240 with a turn at the top, half of which were to the right and half to the left. The

Pools for foot bathing are conveniently located throughout the project

stairs were assembled in jigs set up in the nursery building which was erected but not enclosed at the outset for the contractor's use. Two jigs each designed for a right and a left turn were provided. The stairs, all of exact dimensions, were lifted and set in place in the building by a truck crane after the first story was framed, fitting snugly in the precision assembly. Treads and risers are of vertical Douglas fir and these were protected after they were in place by heavy building paper.

RAMADA CONSTRUCTION IS DESCRIBED

An interesting problem developed in connection with the construction of the ramadas through the "H" buildings. These open passages, 60 feet in width, through the first story of the structure connecting the wings on either side of the court, are formed by erecting the second story on transverse beams supported by piers. These beams are solid timbers 4x16 inches, with a cantilever extension at one end to carry a balcony across the court connecting the apartments on the second floor. It was necessary to extend the service pipes for the second story apartments from the ground up through some of the piers, but the space inside was too narrow to allow the installation of the pipes after the piers were built.

Rather than attempt construction piecemeal, it was deemed simpler and more economical to follow a uniform scheme for doing the job. Accordingly, the second story was erected on the beams, of which there are two at each pier, supported by falsework. The service pipes below ground were protected by an enclosure of metal lath while the timber columns on which the beams were to rest, and the concrete footings for the columns were being placed. These columns, which are 4x6-inch timbers, were suspended from the beams and the concrete footings were poured up to them. The columns were anchored to the beams by steel caps and the footings by steel shoes. The piers thus formed were sheathed and plastered, giving them the appearance of solidity.

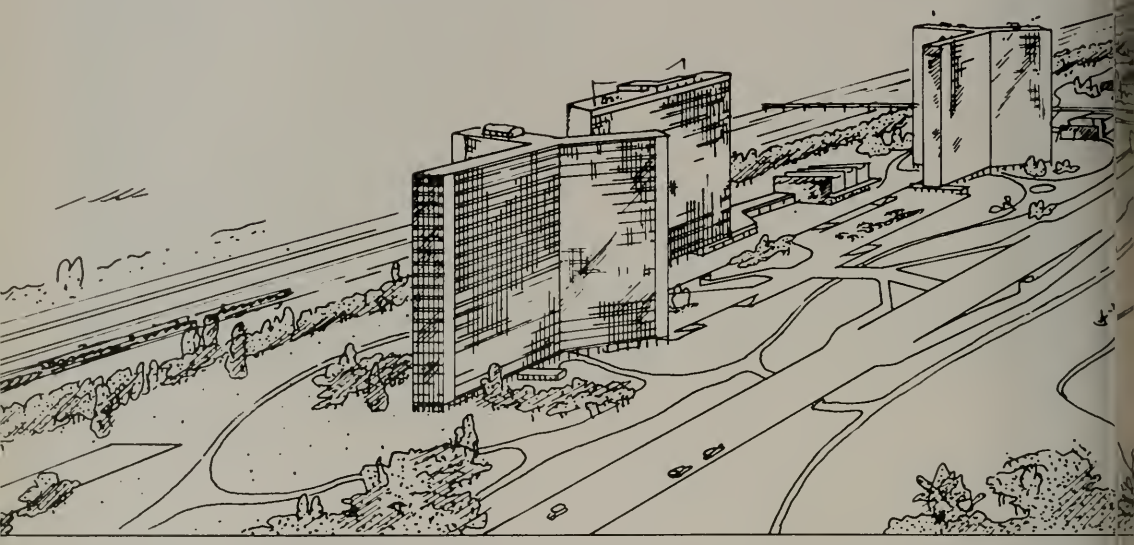
There are sixty monitors on the roofs of the wood frame buildings, two on each "C" type and four on each "H" type, providing light and ventilation for the bathrooms of four apart-

(Turn to Page 32)

Detail of a "U" Building Apartment in foreground, "H" Type in background
(Plan and close-up on Page 19)

Typical kitchen. Note spacious shelf space, tiled sink, electric refrigerator and gas stove

POST WAR PLANNER VISUALIZES HUGE APARTMENT BLOCKS



This original sketch of a proposed lake front development in Chicago, is by Jan Reiner, at the moment a Henry J. Kaiser shipdrafter and until recently a member of the staff of William W. Wurster, architect, in San Francisco. During the summer of 1942 Reiner taught at Mills College. Recently he lectured at the S. F. Museum of Art on "Architecture Today and Tomorrow." His early training was under such internationally known exponents of the modern school as Le Corbusier in Paris, Ove Bang in Oslo, Norway, and Gropius at Harvard.

The proposed residential development of Chicago's lake front, as pictured above, consists of three groups of apartment houses, each of which is composed of three 20-story buildings. Between them are smaller structures accommodating stores, schools, hospital units, recreation and community houses, clubs, movies, garages, etc.

"One of the most brilliant examples is the darmitory for Swiss students at the University City in Paris"

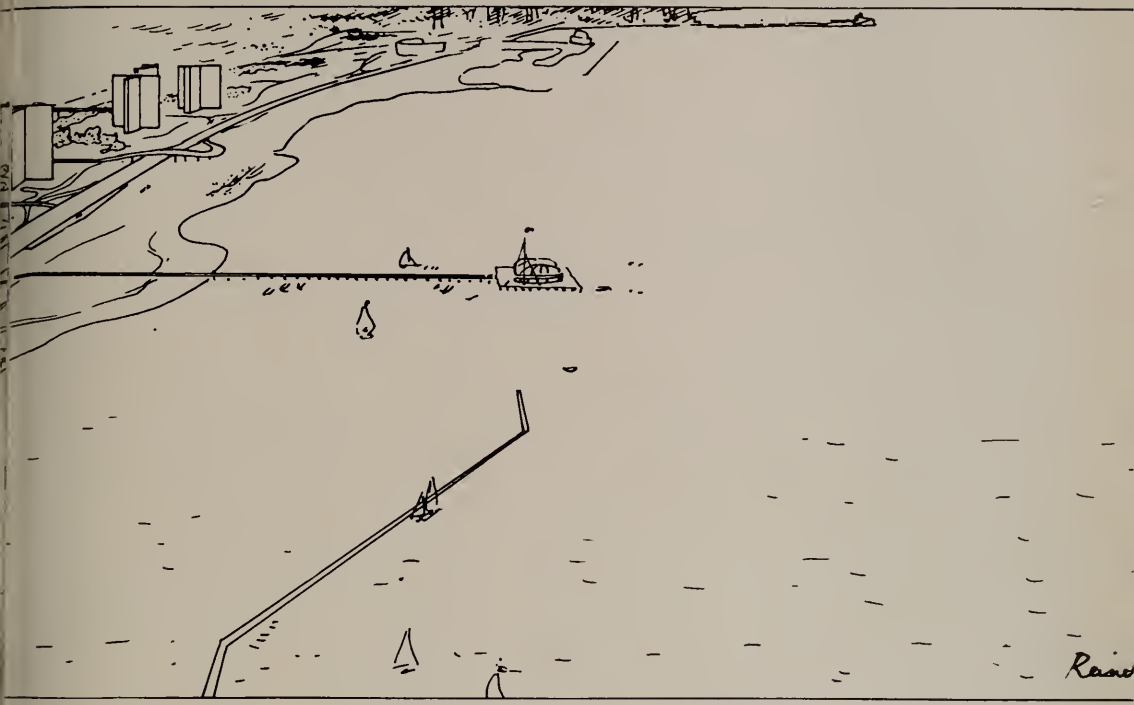
BUILDING MATERIALS — THE

By JAN REINER

History of art shows us that the characteristic which we call the "style" of any period is a family resemblance between all products of that time. In our period a new "style" is being developed in all fields of art and industry, which for want of a better word, we call modern. In the field of architecture the "style," of course, has always been modern. That is to say, it is modern in the sense that it expresses the true function of the building through a proper use of current building materials and current building methods, in juxtaposition with functional aesthetic concepts.

While the appearance, or the "style" of a building reflects the philosophy of its builders, nevertheless it is influenced by the available building materials and current methods of construction. Undoubt-

TO MEET HOUSING NEEDS NEAR METROPOLITAN AREAS



Besides the usual family apartments, one building is designed for a family in which both the man and woman are working. To minimize housekeeping, such things as elevator connections from each kitchenette to a central kitchen are provided. From this central kitchen the housewife may obtain partially prepared meals, with dishwashing and servants eliminated. In the "Y" shaped structures, Jan Reiner is proposing a flexible type of apartment. Large living-rooms can be subdivided into bedrooms.

A removable partition between the dining space and the kitchen makes the kitchen table a counter.

GRAMMAR OF ARCHITECTURE

edly, a house built of wood looks different than a house built of reinforced concrete, or transparent plastics, even though they are products of the same period. So we may say that building materials are the "grammar" or the language of the architect. The "grammar of today" is: steel, concrete, glass, stone and brick, wood, and plastics.

* * *

IT has often been said that this is an era of steel. Until this century our cities grew horizontally. After the invention of steel skeleton construction, they started to grow vertically. The skyscraper, as a part of the vertical city, is a sign of the steel age. Since the construction of the Crystal Palace at the Industrial Exhibition in London, 1851, the engineer has gradually been able to span larger and larger

The relation between the small and the large structures, and their relation to the park, are, in the judgment of the designer, characteristic of an organized city—a type of city post-war planning is almost certain to develop.

The Holbrook Building on Sutter Street, San Francisco. First glass front office structure in the West.

distances with little material. The steel design is dated by the use of rivets, screws and welded seams, which actually makes the "style." Let us compare the heavy screws or rivets which held the steel plates together on the first engines with the practically invisible seams of modern ships and machines.

The possibilities of steel construction are just beginning to be realized. Let us suppose that we could space six structures like the towers of the Golden Gate Bridge, some 100 or 200 feet apart, and widen their six suspended highways into one huge platform. Then, this platform could become the roof of a huge space without intermediate columns or supports. Such spaces would be the assembly halls, factories, and the auditoriums of tomorrow. The mighty parabolic arch which Le Corbusier designed to hold the roof over one of the large halls of the Centrosojus in Moscow is an example of the above idea. The roof is suspended from the arch in a way similar to the highway of the Golden Gate Bridge. This large hall, freed of all supporting columns, is the antithesis of a space, such as the new Johnson Wax office building at Racine, Wis., where the columns have, perhaps, been too glorified.

* * *

IF steel extends our buildings vertically, concrete extends them horizontally. Like steel, reinforced concrete lends itself to large scale spans and cantilevers. Pioneer examples of "concrete style" are: American silos, bridges by Maillard, and the hangar at Orly, built during the last war in France. All three are different in character, and yet typically reinforced concrete in "style."

From the simple geometrical appearance of American silos, modern European architects learned

Falling Water House by Fronk Lloyd Wright, an outstanding example of contilevered construction

Like Le Corbusier's mighty parabolic arch

about the aesthetic value of "pure forms." Le Co busier, for instance, writing on beauty in archite ture referred to the "prisms and cylinders" of thes silos, saying that they are pieces of art created b engineers whose minds are free from academ conventions.

Because concrete can be poured and shaped a most like a sculpture, the neo-romantic school c Central Europe was inspired to an aesthetic tren which was almost the antithesis of purism preache by the Bauhaus and Corbusier. On the Einstei Tower, concrete was shaped into a drama of hi torical significance. The popularization of this trea ment of concrete surfaces became fashionable afte 1920, leaving a great variety of aesthetically doubt ful creations. "Architectural concrete," a sad e ample of an "applique style," is perhaps ending th school of thought.

Both the structural advantage and the aesthet value of cantilevered platforms were soon recog nized by modern architects. One of the most bri liant examples is the dormitory for Swiss student at the University City in Paris, where a three-stor structure cantilevers over its reinforced concret supports. These, somewhat unusually shaped post were left unpainted and no attempt was made t cover the traces of the wooden forms into whic concrete had been poured. Some ten years ago when this building was finished, it aroused world wide attention. In America, one of the finest can tilever constructions is the Falling Water house o Frank Lloyd Wright. Cantilevered balconies an platforms help to integrate the inside with the out side perhaps more ingeniously than in any of hi other residences.

If steel of tomorrow will span roofs over large spaces, concrete of tomorrow will build (or rebuild the Grand Coulee's and Dnieprogresses, which ul timately will help to transform our economy of the steam engine to that of the electric generator.

* * *

GLASS is one of the oldest and yet the most modern

of man-made materials. To quote Lewis Mumford, "Glass helped to put the world in a frame; it made it possible to see certain elements of reality more clearly." In ancient times, where glass was produced in small pieces, it was considered a precious stone. In the Middle Ages, it was manufactured in slightly larger sizes, stained and exposed to the passage of light in church windows. In a practical sense, the first use of glass and mirrors on a large scale was made in the Palace of Versailles.

The first gigantic use of glass in modern times was in the famed Crystal Palace some 100 years ago. Since that time glass has become of utmost importance in residential and industrial architecture. On the West Coast, one of the most interesting examples of a "pioneer glass house" is the building on Sutter Street, between Kearny and Montgomery, San Francisco, designed by Willis Polk some thirty years ago.

Because of research in modern years we are able to produce a glass which lets through certain sun rays, insulates from cold, heat, and sound, is unbreakable, and strong enough to form structural members which will support heavy loads. Glass blocks of various sizes and colors are another subject for research. Polarized glass, thus far, has seldom been used in homes. If it were to be used as an exterior wall or window, it might introduce colored effects, and perhaps replace the traditional curtain.

In the future, glass will continue to complement steel and concrete construction but perhaps will have to compete with transparent plastics.

* * *

FOURTH of our building materials is stone. From earliest times to the present, stone in architecture has symbolized permanency. Practically all of the so-called monumental buildings built through the ages are of stone. When some hundred years ago steel and concrete skeleton revolutionized building methods, massive stone and brick walls were no longer essential. In our tall office buildings stone is used mainly as veneer in thin plates to cover the surface. The time may come when, for practical reasons, this stone veneer will be replaced by other material—probably a glass or transparent plastic panel.

However, stone will undoubtedly have a use in residences of a permanent nature, particularly in rural dwellings where the use of local stone forms a natural association between building and site. Both of Frank Loyd Wright's Taliesins offer perfect examples of this.

* * *

WOOD, the earth's greatest natural renewable raw material, is one of the oldest building materials known to man. For its weight it is the strongest building material. It is inexpensive, easy to work with, and easy to take care of. It has a warm appearance desirable for the exterior and interior of homes as well as for furniture. Wood has been successfully used in large span constructions like the railroad halls of Northern Europe, or the Mormon Temples.

The modern by-product of wood, plywood, has an immense use. Aside from its obvious uses in home and furniture industries, we see it coming into use in the war effort. The airplane industry, for instance, has developed various processes whereby plywood is molded in hot steam or cooked together with frames to form a rigid fuselage.

Aalto, the Finnish architect, has developed various bent wood frames which can replace many of the laborious joints of traditional furniture production.

Recently, we heard of various wood "alloys," perhaps still experimental, where several layers of wood have been impregnated and compressed to form a hard, dark substance which can be polished like marble. The building and furniture industries will undoubtedly know more about it after the war.

* * *

SIXTH and youngest of the modern materials on our list, is plastics. It has amazingly diversified uses: it can be poured or molded in practically any shape and color, and is an ideal material for standardized products. Up to now, plastics has been used for a great many small objects. If, after the war, plastic panels can be produced cheaper than plywood panels, the building and furniture industries would take advantage of it. Sections of prefabricated homes could then be poured of transparent, translucent or even colored plastics. The furnishing, fenestration and exteriors of homes derived from the technical and esthetic properties would offer great possibilities for architects.

CAMOUFLAGE IN AMERICA IS MORE THAN A SCIENCE

By HARPER GOFF

Two hours' flight from our West Coast, dawn is breaking over the ocean's rim. On the aircraft carrier that flies the flag of the Rising Sun, the flight commander is giving final instructions as the ship maneuvers into the wind.

"On the west side of Greenhill, look for two Greek Theatres in the center of a large recreation park. Bomb anywhere in the recreation park, but particularly those Greek Theatres. To your places!"

What happens to a busy scene like this, on a hypothetical American inland waterway, when the camoufleur decides to blot it out, while still retaining its functional efficiency?

Here is the onswer. Paint, nets, fabrics, foliage are cambined to eliminate shapes and forms. Ships can be towed in and out and loading gaes on without interruption.

And that's how much good it would do to camouflage one target with another just as visible. Just one reconnaisance flight in search of the Greenhill Chemical Corporation — granted that the enemy knows its general location—would reveal the incongruous arrangement of Greek Theatres and tennis courts that disguised respectively the huge, vital storage tanks, and the more spread-out manufacturing plant, distillery, etc.

I have used an exaggerated example, perhaps, but it is indicative of some of the rationale that must lie behind every single camouflage job which has been, or now is, quietly under way in America.

To call camouflage a science may be correct. But it is more than science—it is an art, with a definite technique. It may properly be called the architecture of concealment. It is decidedly a tailor made job—custom-built to the last detail.

During the thirteen months since Pearl Harbor, a small handful of artists and engineers have been spending their days and most of their nights devising effective means of concealing West Coast defense plants from the eyes of the enemy.

As a member of this group, I have seen professional interest in camouflage grow from the stage of scattered individual effort by a single designer here and there, to a group effort; thence, to a series of organized camouflaging units. It was a rapid transition—but no more rapid than the gathering hunger for knowledge displayed by industry at large toward this architecture of concealment.

The information which these camoufleurs have gained constitutes neither professional nor government secrets, for their use belongs to every industry which, in wartime, wants to protect its valuable assets and products for the Nation's continued use, through the passive defense of concealment.

There is no opportunity to employ mass production methods in the design of camouflage.

IS AN ART WITH A DEFINITE TECHNIQUE

It is not like a ready-cut home or pre-fabricated fence that can be bought by the yard and installed according to a page of printed instructions and accomplish its mission equally well wherever or by whomever it is installed. It would be nice if the plant executive could phone his maintenance department and instruct them to order twenty thousand square feet of camouflage material and roll it over the factory like a carpet, thus removing his plant from the landscape as far as visibility is concerned.

On the contrary, local conditions of the terrain—for instance, nearness to the seashore, with its change in actinic light—make it necessary for each job of camouflage to be given individual and specialized attention.

The camoufleur or designer is the man who formulates the scheme or manner in which each separate plant is to be obscured. In our opinion, he should be on the spot and familiar with the operations of the factory under transformation. He must understand the manner of living of the people in adjacent territories. He must see with his own eyes traffic problems and points of congestion, and should observe from the air the organic structure in the earth which weaves itself like a tapestry across the map.

Further, the camoufleur must be familiar with the type of construction of buildings surrounding the factory. In our work, we feel we must know what kind of foliage grows in the immediate area—when it is full leaf—when the branches are naked—when the sun and fog and rain are most likely to bring about the critical condition of exaggerated visibility.

Clearly, all sections of the nation are not alike in soil, topography, and foliage. It is impractical for a designer, working in one city, to direct camouflage theory and procedure for defense plants in a variety of local scenery scattered from Seattle to Boston, and from Pensacola to San Diego.

Below: Intelligent camouflaging involves the altering of surrounding reference points as well as the target itself. Width of river, type of bridge, any other features identify the area from above.

The same scene after the camoufleur has applied his art. Screening of river house, wharves, bridge; narrowing of river (through use of flooting nets); disruptive painting—all combine to confuse the approaching bombardier.

HARPER GOFF *has distinguished himself since America entered the war by designing and supervising camouflaging of factories on the West Coast, including one of the great aircraft plants. For the past three years, while carrying on as set designer and illustrator for Warner Bros. Pictures, Goff studied camouflage in association with his friend, Robert Gillespie, Lieut., U. S. Army Engineer Corps. Within seventy-two hours after Pearl Harbor, Goff, Lieutenant Gillespie, Bert Teitlebaum, head of Warner Bros. Art Department, and Arthur Kooken, Warner's chief draftsman, had organized the famous Warner Bros. Camouflage Unit.*

Born at Fort Collins, in 1911, Goff exhibited water colors in many galleries. One of his paintings is owned by Mrs. Franklin D. Roosevelt, two by the O. E. M. Bureau of Information, and one by the American Red Cross.

Mr. Goff's article has been approved by the U. S. Army authorities.

Total camouflage, representing the addition of nets, natural and artificial foliage; and plywood shapes, puts the air observer "in the woods" completely.

Here, disruptive painting with low-visibility, infra-red resistant camouflage paints has altered the scene. A simple train shed effect can be accomplished with painted chicken wire stretched over framework.

Petroleum storage tanks; a four track mainline railroad; a distillery; other factory buildings—all are combined in this model.

WEAPONS OF CONCEALMENT

erhaps among the most important weapons f oncealment architecture are color and tex- re. Use of special paints compounded for v visibility and other factors to be later dis- ued, plus nets, artificial and natural foliage, ain—and a vivid imagination, combine to er er effective camouflage.

ontrary to prevalent opinion, it is not ecessarily the camoufleur's function to hide r iminate the factory from enemy eyes. One f is most important jobs is to confuse. It wo d be possible, with sufficient money and m , to hide completely many a plant, but mc authorities, in computing the speed of n pproaching bomber and the limited time hh the bombardier has to find his target, g e that so-called total camouflage is not ssntial in many instances.

ecause camouflage is a three dimensional problem, it is almost universally studied by the mens of a miniature. The necessity is dictated by he fact that sunlight and shadow are ever changing and a two dimensional scheme does no solve this telltale factor.

oday when a camoufleur is commissioned to design a "cam job," he immediately con- er with local civilian defense authorities, plant owers, adjacent property owners and the Army Command. From air photos and sketches

(Upper picture) Vertical view of hypothetical manufacturing center, showing numerous bombing targets. Altitude considerably less than customary for enemy bombing.

(Below) Same view, after low visibility camouflage paint (disruptive camouflage) has been applied. Sufficient alteration to confuse bombardier from altitude of 20,000 feet or more.

(Left) Identical scene after total camouflaging, consisting of nets and fabrics, plywood shapes, camouflage paint, train sheds, floats on river.

Photos by courtesy of Premier Oil & Lead Works of California, camouflage paint producers.

he painstakingly builds a scale model of the area, working out his problems thereon. These are sufficiently accurate that their public display would be against the nation's best interests.

HYPOTHETICAL MODELS

However, I was recently commissioned to build a pair of hypothetical models, from which the photos appearing herewith were taken. These models were prepared for Premier Oil & Lead Works of California, developers of a spectacular infra-red, heat deflecting camouflage paint on which I rely for many effects. Together the models show the scene before, and after, a comprehensive camouflage design has been applied to a factory and its environs.

The center of interest is a large American factory, which we call the Greenhill Manufacturing Company, embodying all the buildings to be found in nearly every kind of industry.

This imaginary factory exists on a river. On one side of the factory are main line tracks and rolling tree-dotted hills; on the other, the edge of an average size industrial town. It has various pronounced landmarks including a bridge, dock, slips, parking lots, storage tanks and numerous other reference points.

Across the river is a small town with nearby farms, and a curving highway which is normally used to transport farm produce and tourists rather than industrial trucking.

All the difficult problems that beset a camoufleur have been included in this one example. It is to be hoped that very few plants would incorporate all of these trying problems.

To camouflage only the factory would not have been intelligent practice. If the enemy expects to find the target in a certain location, he will be suspicious if none is visible. He will study photographs more carefully and quickly find the exact location of the hidden plant.

To hide or obscure adjacent reference points even several miles away is as necessary as to do so to the target itself. If the enemy is to be kept from rapidly penetrating our mask, we must resort to area camouflage. In this model, it will be seen that we have taken full advantage of common physical characteristics of the river above and below the actual target.

"CAMOUFLAGE DISCIPLINE"

Of course, in a real problem, such total camouflage can only be accomplished with the understanding and cooperation of everyone in the target area. At least 35 per cent of the effectiveness of camouflage depends upon what is known as "camouflage discipline," or the willingness of everyone in the area under observation to abide by a set of rules. These may include such widely varied requests as the prohibition of smoking chimneys; the abandonment of certain roads; the constant maintenance of shine-reducing or glare-reducing properties on railroad tracks and high tension wires; the organization and distribution of traffic at certain hours; the parking of cars according to a preconceived plan; the frosting of certain windows to eliminate sunset and sunrise glare, and hundreds of other inconveniences that may be visited upon the people in the entire area surrounding the target.

In this model, a large portion of the factory —administration building and numerous plant buildings—were "broken up" by painted surfaces having the appearance of smaller buildings from bombing altitudes. The shape and height of smoke stacks were minimized by irregular shaped light wood and cable fins attached about halfway up the stack—painted to blend into the surrounding design.

In dealing with our shadow problem, it can be seen that paint alone is not enough. Paint needs an ally—a three dimensional structural sun-reflecting and shadow casting ally. Light must be introduced into shadow areas and incidental shadow areas introduced back into light areas.

Long straight persistent shadows cast by rows of buildings must be broken up by these structures. Their construction must be such that only its effect, or visual properties, are visible from the air. Methods of supporting and maintaining these shapes, nets or canopies must not be seen. No matter how clever and how real a forest may look, a photographic interpreter is on the lookout for telltale signs that will reveal man-made construction.

The type of construction, of course, must be cheap, fire-proof, water-proof, and wind-proof. It must be light weight and have a certain

amount of elasticity. Hard-boiled construction looks static and stiff from the air. Pliant circus tent construction, moving a little in the breeze, is more desirable.

This construction must also be designed with a view toward maintenance. If our war continues longer than optimists say, it may be necessary to renew our paint from time to time. And, of course, we have the changing seasons which in some climates present a continuous maintenance problem.

The appearance of forested areas in the camouflage model are accomplished through nets and flexible wire mesh on which is laced and draped colored tattered cloth and kindred material, known as garnish, and the whole painted according to a pattern.

COLORS AND SHADES

In an effort to make a flat surface take on protuberances and depressions, I find it helps to take advantage of the high and low visibility property of certain pigments. It is not done by contrasting values alone, but by the use of colors and shades of widely separated specular visibility. Brilliant primary colors of high visibility used next to background colors of Olive Drab and Grays, will seem to pop or stand out, giving the appearance of relief. This can be seen in studying textile designs of indifferent color choice. Often you will find bad combinations of colors which result in optical vibration and an erroneous conception of depth and dimension. Careful study of this phenomenon enables the camoufleur to simulate structures in relief on a perfectly smooth surface without resorting to tricks of perspective which are effective under some conditions and from certain view points but are completely in error from another.

The combination of deception, removal of shapes and substitution of others, alteration of appearance of highways, bridges, and parking lots—all were accomplished in this model without hindering the normal production of the plant or flow of surrounding traffic.

Of course, there are all degrees of camouflage besides the costly total camouflage which these models demonstrate. There are numerous places where the train and highway sheds included here, and necessary to continue the forest design, would not be practical. Yet, primary camouflage with paint alone is frequently considered enough to confuse the approaching bomber until an antiaircraft barrage can come into play.

No single mechanical consideration is more important to the camoufleur than paint. For no matter how successful our camouflage hides the plant from the bambardier's eyes, one must remember that he is equipped with highly technical photographic apparatus which is designed to penetrate paint and net camouflage.

It does this by means of color filters and infra-red film, which betray man-made and man-painted imitation vegetation and other surfaces.

To overcome this weakness, alert paint manufacturers in America's paint industry have been on the job. Today, we have camouflage paints that react to all known photographic and sensitometer tests precisely as does natural foliage. This one advancement in technology has been an immeasurable aid to camoufleurs throughout the land.

These new infra-red reflecting properties have also increased the durability of paint as well as to reduce the inside temperature of the object painted as much as 15 degrees when compared with the same color in ordinary paint.

CAMOUFLAGE PAINTS

Perhaps I should explain a little more about what we have learned to require of camouflage paints. Frankly, its technical requirements are such as virtually to nullify the camoufleur's efforts if they are not met. The architecture of concealment is worthless if it interferes with the normal production capacity of the plant to which it is applied. This means more than merely avoiding fastening nets and fabrics where they will be tripped over—it means retaining as pleasant working conditions as possible by specifying a heat-resisting camouflage paint to replace the gleaming aluminum paint widely used to deflect heat. More than a mere notion, this point was proved decisively in the first few "cam jobs" which were constructed in America after December 7th.

(Turn to Page 36)

ALISO VILLAGE

(Continued from Page 21)

ments which are so planned that all four rooms join at one corner. The monitor, divided into four parts, has windows at each corner directly above the corner of the bathroom below.

All of the buildings have concrete foundations and ground floor slabs, 3½ inches thick, reinforced with wire mesh. The slabs, 24 inches above ground, are supported by precast concrete joists. Standard wood forms were used for foundation walls and the slab panels between the joists.

COMBINATION OF BRICK AND CONCRETE

The masonry buildings have ten-inch and eight-inch brick walls, with reinforced concrete bond beams at the second and third floors and at the roof. The second and third floors are concrete slabs on precast joists. The three-story wings are connected by a two-story structure, the lower part of which is open, with reinforced concrete columns carrying the second story containing five apartments. The lower open portion is a ramada similar to that in the frame "H" buildings. A balcony formed by a cantilever extension of the second floor slab connects the five apartments. Access to these and to the apartments on the second floor in the wings is provided by cast-in-place concrete public stairways at either end of the connecting structure. Apartments on the third floor are also connected by a concrete balcony formed by a cantilever extension of the floor slab into the court.

The first and second stories in the wings are divided into up and downstairs apartments, each with separate entrance and its own stairway to the second floor. These interior stairways are precast, but are a new design, the stair horse being cast integral with a wide stringer. The stringers are anchored at the top and are tied together at the bottom with steel rods. The treads, set with the ends against the stringers, are cast with longitudinal corrugations to provide surer footing.

Stair wells are provided for the two-story dwelling units in the brick buildings by reinforced concrete longitudinal beams at the second and third floors with cast iron column supports to carry the precast concrete joists and floor slabs over the stairways which are cut through the second floor between the top platforms. Timber columns and ridge beams carry the roof structure from the third floor. All the buildings have flat roofs with a slight pitch and are covered with built-up felt and tar and gravel roofing. The ceilings are finished with plastering.

Exterior plaster of the frame buildings is cement with a sand finish and interior walls and ceilings are treated with a coat of color stucco. Exteriors have been given a brush-color coat. All wood finish floors are oak, while concrete floors have a trowel finish, waxed in their natural color. Floors in bath rooms and in kitchens are covered with linoleum.

More than 3,800,000 board feet of lumber were used on the project.

The contract included also about 200,000 cubic yards of earth excavation into the bluff along the proposed Santa Ana Parkway and construction of a concrete retaining wall 300 feet long and 41 feet high. The wall will be one foot thick at the top and 15 feet at the bottom with a spread footing 18 feet wide. Some excavation has been done to provide additional building sites, but the wall will be constructed later.

The over-all project cost of Aliso Village was $4,410,000.

The architects were Ralph C. Flewelling, chief; Eugene Weston, Jr., Lewis E. Wilson, Lloyd Wright, and George Adams; Ralph E. Phillips, mechanical engineer; C. J. Derrick, structural engineer; Harold A. Barnett, civil engineer; Katherine Bashford and Fred Barlow, Jr., landscape architects. After the project had started, Mr. Wright succeeded to Mr. Flewelling as chief architect.

The Los Angeles Authority is comprised of five commissioners: Nicola Giulii, chairman; Ralph McMullen, vice-chairman; J. E. Fishburn, Jr., Mrs. Jessie L. Terry, and Maurice Saeta. They serve without salary. Howard L. Holtzendorff is the executive director in charge of administration and Walter G. Beck is assistant executive director, in charge of all construction for the Authority.

THE OUTLOOK FOR POST-WAR BUILDING

By MAJOR GENERAL PHILIP B. FLEMING*

That private building in the Washington area, as elsewhere, has just about ceased most of us are impressively aware. I assume that your situation as builders is very much like ours in the Federal Works Agency. We are building public works—such as schools, hospitals, water works, sewer systems and recreation centers—only when they are certified to us by the Army, Navy, or some other war agency, as essential to the successful prosecution of the war. When the need is so certified, we are next up against the problem of finding materials out of which to build. The primary war effort must have first claim upon critical materials, especially of metals of all kinds, and we have no quarrel with that arrangement. But the result is that we have to take the little we can get and be satisfied with it, and try to spread it around in a manner that will do the most good. I think we have been rather ingenious in finding substitutes for metal. If we can't get cast iron pipe, we try to get pipe of reinforced concrete. And if we can't get that we turn to asbestos-cement or wood stave. But there is a real difficulty here, because the increased demand for such materials very quickly brings about a shortage of the substitute which may be almost as critical as that of the original article it is designed to replace.

Our engineers and field representatives have come to be pretty enterprising in turning up second-hand materials. If you happen to see a mysterious stranger lurking around some building that is being demolished, don't shoot. Think nothing of it; he is probably just a harassed Federal Works engineer watching for a chance to paw over the wreckage in the hope of finding some cast iron pipe, or some reinforcing steel that he can grab off and put into a new school house or hospital somewhere. There have been instances in which we have shipped just such priceless second-hand material clear across the continent. The adjustments we have had to make have led very naturally to a settled FWA policy of building structures of emergency design, stripped of metals as far as possible.

Our criteria for hospitals, for example, call for one- or two-story structures of frame or masonry construction without elevators, without intercommunicating systems, without mechanical call systems for nurses, and with no radio installations. In many instances walls are left unplastered.

These are the imperatives of war time, and I do not need to dwell upon them before this audience, for most of you as private builders have been up against about the same thing.

If I am correct in assuming that the building industry, as an industry, already is doing everything it can within the permissable limits toward the winning of the war, some profit still may be derived from considering the sort of situation in which we are likely to find ourselves once the war is won. Our economy is pretty tightly controlled, and the controls are likely to become still tighter before the last shot is fired. The other day I read that an important manufacturer, addressing a war-time conference of the National Association of Manufacturers, had demanded the quick post-war relaxation of all controls over business.

Well, if business men find war-time regulations irksome, so do the rest of us as workers and consumers, necessary as we know regulations to be. But, suppose the manufacturer gets his wish and all controls are instantly relaxed. No more priorities, no more material allotments, no more gasoline, coffee or sugar rationing. You will recall that we did that once before when, almost with the single stroke of a pen, we returned instantly to what we called normalcy—but without very happy results.

* From an address before the Washington Building Congress, Washington, D. C.

COMPLEX SITUATION

The situation this time is far more complex and involved than it was then. Our army this time is already much larger than it was in the first World War. Back in 1917 and '18 relatively little of our industry was converted to war production. In this war, conversion has been pressed to an extreme limit. There is scarcely a town in the country in which there is not a factory or two working almost exclusively on war goods. New factories have been built and old factories have expanded. I have read estimates that within another year no less than 20 million people will be working exclusively on war goods.

What happens if, at the end of the war, every one of these factories should close down? And suppose the Army and Navy were both demobilized at the same time? That would leave 20 million workers out of jobs, and to that horde of job-seekers would be added some millions of young men back from the wars and trying to reestablish themselves in civil life.

Our ability to handle just such post-war problems will depend very largely upon the kind of planning for them that we do now. Some people seem to imagine that the planning job can be left wholly to government—that somebody here in Washington presently will bob up with a hand-tailored plan that will set everything aright, and that everybody else can just sit back and do nothing until he gets his instructions from Washington.

That isn't my idea of the final and happiest solution. In my opinion the planning job in a democracy is one that all of us will have to take a hand in. Every State and city will have to have some sort of prospectus of "where do we go from here?" and every business man certainly knows that if he expects to survive he also must have some post-war goals at which to shoot.

As a matter of fact, I know that already a great deal of advance planning is now going on in business concerns. Almost every company has in its personnel some executive who went through the last post-war readjustment and who is very busy trying to figure out how a terrific let-down can be avoided this time when the war contracts stop coming in.

With the best of luck, and assuming that an immediate demand for goods and services of all kinds denied during the war will be instantly released, it will naturally be some months before industry can retool to provide the goods and services, and the retooling process does not employ much labor. Wartime shortages cannot instantly be converted into abundance. Shipping that will be needed to bring men and materials home from foreign battlefields cannot at the same time be used to bring coffee and bananas from South and Central America and naturally rubber from Malaya. If all rationing and all material allocations and all price restrictions are lifted immediately, we should expect to see prices rising to such fantastic heights as we never have known in this country before. So it seems to me that any plans we make must give some consideration to the desirability of continuing for some months, or even years, many of our war-time controls. Would it not also be better to keep at least some of the factories at work on war goods for some time after the peace, even if such goods may never be needed, than to close them all down at once? Would it be better to disband the Army quickly, or should we plan to demobilize a regiment or a division at a time as jobs are found for the men in civilian life? These are practical questions that we can hardly afford to duck.

PRIVATE ENTERPRISE

President Witherow of the NAM tells us, "The task of economic reconstruction after the war must be that of private enterprise." He adds that, "private capital can and will do the job if the government would declare that private capital will be encouraged to provide the motive power for post-war reconstruction."

I am not quite sure that I know what that means, but with the events of the '30's still clearly in mind, I am just a little bit skeptical anyway. I still think that there will be a job

for government to do, and that government owes some responsibility for helping to provide jobs when industry cannot provide them. What else is government for but to serve the people?

I hope it will not be necessary hereafter for government to make vast expenditures merely for work relief, but if it should be necessary, I think we have learned enough from past experiences to make sure that the job will be well done and that we will come closer to getting our money's worth than we did the last time.

Public works are perhaps the most useful of all projects in taking up the employment slack because they, directly and indirectly, provide jobs for the largest number of people, but a useful program cannot be improvised over-night. Land must be acquired, sometimes by the tedious process of eminent domain. Sometimes legal obstacles must be overcome. Financing arrangements must be made. Perhaps bond issues voted. Finally, blueprints must be d r a w n and specifications written. Many months or even years must elapse between the determination to build and the actual start of construction.

As I see it, the type of planning for public works which we now need is one in which the preliminaries will be gotten out of the way before the war ends; the site will be acquired, the legal conditions will be met, the plans for financing will be made, the blueprints will be drawn and the specifications written. And then, in the hour of need, we can pull the blueprints out of the cupboard, hand them to the contractor, lead him out to the site and say, "You begin digging here at 7 o'clock tomorrow morning." Thus, each project can be started at a time when the jobs it will create are most needed, and when it can best be financed. Projects can be speeded up or slowed down as the necessities of the employment situation dictate. It is in such over-all nation-wide planning for post-war public works that I hope the Federal Works Agency may be permitted to participate.

"I do not profess to be a prophet, but I think some of the outlines of "the shape of things to come," so far as the private building industry is concerned, are fairly clear.

IN THE OFFING

First, I should expect to see immediately after the war a very considerable increase in public works construction in which private contractors will participate. We need, for example, more and better highways, and the Public Roads Administration, by virtue of a special appropriation of 10 million dollars for the purpose, is at work on plans. Among the projects that appear to be within the realm of early post-war realization is a new high-speed highway running across New York State from New York City to Buffalo. Similar developments are being projected in the West.

We shall need millions of new homes to replace the obsolete, to take care of a growing population, and to compensate for the construction now being deferred.

Millions of families after the war will demand better homes than they formerly lived in. Soldiers who have enjoyed better living conditions in the Army than they ever did in the places from which they came, will not again be satisfied to go out to the pump or up to the spring for water, or to take their baths in the creek.

There will be a wealth of new materials on the market. We will come out of the war with an enormously increased productive capacity. Steel, for example, should be plentiful. Much more aluminum will be available. Heretofore, aluminum has been used in building largely for decorative purposes. Hereafter it may come rather close to competing on a price basis with steel for many structural uses. Plastics will be on the market in many varieties and great abundance. I read recently of experiments designed to make window screens out of plastics, which is some indication of the direction in which the wind is blowing. The Necessity Mother of War-Time invention has been busy in developing substitutes for many types of critical building materials—and even substitutes for substitutes—and it may be that many of these substitutes will turn out to be more desirable than the genuine

article. No doubt hundreds of corporations throughout the country are at work on new products we have not yet heard about that will be offered to the public when the war contracts stop coming, and some of these new products will be in the nature of building materials.

I expect to see a further development of mass production techniques applied to large scale building operations. When the Federal Works Agency was responsible for war housing we used some of these techniques to very good advantage. We were restricted by law to an average cost of less than $4,000 per housing unit, and at the time we were required to pay the wage rates prevailing in the communities in which we operated. On some of the projects we fabricated on the site parts of houses in wholesale quantities. We worked out a division of labor so that, for example, one worker might not do anything all day long but install a certain type of kitchen fixture. As soon as he had finished with one kitchen he moved on to the next, where he found the equipment he needed laid out and waiting for him.

I expect to see labor standards maintained at present levels, or even improved. I think labor, however, will have some adjustments of its own to make in order to clear up jurisdictional differences arising from work on new types of materials.

All in all, I see many bright opportunities for the building industry after the war, provided it remains flexible enough to adapt itself to somewhat changed conditions and new methods, and provided we plan wisely enough to get us over the hump of what otherwise might be an extremely serious post-war depression. I consider planning for the future only second in importance to the winning of the war itself, and the planning job that needs doing offers a challenge to the best intelligence of all of us.

CAMOUFLAGE

(Continued from Page 31)

Responsibility of the executives and management of American industry is clear. They must see that America's equity in their business is protected. Too often after reading the morning paper about how clever the Japs or the Nazis have been in concealing and protecting their centers of production, we mistakenly condemn our own Army Command or civilian defense officials for lack of foresight in protecting ours.

Camouflage is like a dike. Its purpose is to keep the river of destruction away. Cairo, Illinois, does not resent the cost involved in building her huge levees, because every spring she sees the water level above her housetops held back by only twenty yards of dirt and concrete.

Cairo didn't build her first levee until she had been desolated by flood at least twice. Let's not wait to start thinking and acting camouflage until we have heard and felt enemy bombs. Then it might be too late.

It is as necessary to protect the production capacity of our plants as it is to protect our shores against invasion. There are people vitally interested in helping you solve these problems in architectural, structural, paint, and material field of American industry. Invite them to help you.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

DAMP AIR ELIMINATOR — The Tamms Silica Company, 228 N. La Salle Street, Chicago, makers of Dri-air chemical powder for eliminating humidity, condensation, rust and warping has developed two new units made of non-essential materials. One of these, known as a commercial tripod unit, is designed for warehouse, factory and general store use. The other is for household, store and office use. Either outfit is adequate for removing excess moisture from 1,000 to 1,200 cu. ft. of air.

GYPSUM BOARD SIDING—A new board called "Triple-Sealed Sheetrock Siding," is claimed to cut cost of duration buildings up to 30%. Made of gypsum, the board builds, sheathes, sides, braces and decorates in one operation. It is fireproof and weatherproof. Used for years for inside walls, with the perfection of an effective process for sealing edges, ends and surfaces, this siding is now practical for duration building. It has been developed after 20 months testing by the United States Gypsum Co., 300 W. Adams Street, Chicago.

ODOR ABSORBER—A new, non-chemical material has been developed which absorbs paint and varnish odors. Makes it possible to work or sleep in rooms recently painted without the discomfort from the smell of fresh paint. The material manufactured by Tamms Silica Co., Chicago, Ill., is known as Nox-Odor. No larger than a tin of canned food and all that is necessary is to open at both ends and place in room. Available in two sizes, it is also used for the inside of refrigerators and coolers.

PLASTIC SPRAY GUNS — A new black plastic gun, weighing a quarter of a pound less than the pre-war aluminum model that it replaces, has been developed by Eclipse Air Brush Co., Inc., 390 Park Ave., Newark, N. J. Stronger, lighter in weight and chemical resistant are advantages claimed. These guns have been in use for several months in war plants. Priority is still required.

STATIC-CONDUCTIVE LINOLEUM — Designed to overcome the grave hazard caused by static electricity in the presence of vapors from combustible substances and dust from explosives or any substance that combines with oxygen, is the new product made by Congoleum-Nairn, Inc., Kearny, N. J. Produced especially for the use on floors and tables in powder and loading plants, it is also valuable for areas where solvent vapors or dust constitute fire hazards and for hospital operating rooms where explosive mixtures of ether and air may occur. Meets specifications Ordnance Department Safety Bulletin.

NON-METAL SINK — One of the new products being placed on the market is a line of sinks that contain no cast iron or pressed steel. Selected clays fired at a high temperature with a layer of vitreous china glaze produces a homogenous, durable, light uniform body that withstands thermal shock and does not craze or dent. Complete information on "Perma-Gloss Sinks" may be had by writing O. S. Tyson & Co., 230 Park Avenue, New York, N. Y.

WAR PLANT HEATER—America's war plants call for a new type of heating and ventilating unit, states a new folder just released by the Young Radiator Co., Racine, Wis. The Young "Vertivent" heater and ventilator was designed particularly for war production plants in answer to many requests for this type of equipment.

INTER-COMMUNICATION SYSTEM—A new innovation features "Conference Traffic Control." This enables any number of stations to hold a private conference without interruption or eavesdropping from other stations outside the conference group. Eight page descriptive folder may be had by writing Talk-A-Phone Mfg. Co., 1217 W. Van Buren Street, Chicago, Ill.

PLASTIC PARTS—A new folder, "Plastic Parts for War Production," is available to companies confronted with material shortages or delayed deliveries. This may be a help in solving your part problems. Write Creative Plastics Co., 963 Kent Ave., Brooklyn, N. Y.

CEMENT WORK — The Master Builders Company of Cleveland have recently placed on the market a cement dispersing an air entrainment agent, which, when added to a paving mix is claimed to improve all the essential qualities of concrete—transverse strength, resistance to wear, and freedom from scaling. According to the bulletin issued by the company, it appears that this is accomplished with little or no increase in cost. A booklet covering this subject is available from the Master Builders Company at 7016 Euclid Avenue, Cleveland, Ohio.

HONOLULU TODAY

Architect and Engineer readers, especially those familiar with the extensive lumber and building material business of Lewers & Cooke, Ltd., of Honolulu, will enjoy reading the following excerpts from an open letter to their friends on the mainland. The author, F. D. Lowrey, is President of the company. He recites some interesting highlights of life in Honolulu since Pearl Harbor:

TO OUR FRIENDS ON THE MAINLAND:

In some ways Honolulu today is not so very different from Honolulu prior to December 7th; in other ways it is quite different. When I was out last evening the palms, eucalyptus and flowering trees were etched against the starlit sky as in other days. Our customary symphony concert season, although suspended in December, was finally completed in September by performances given on Sunday afternoons, but many of the musicians were in uniform. Our climate remains gentle, and our friendliness with each other is evidenced at every turn.

On the other hand, the City of Honolulu is filled with newcomers, mostly service men, although our civilian population has also increased. Everywhere there are men in uniform—and they are not on parade; barbed wire entanglements and defense posts surround principal buildings; splinter shelters fill our parks and available spaces downtown, while practically every private home has a small splinter shelter of its own.

We maintain blackout from 7:00 p.m. to 6:45 a.m. (War Time), and it is a real blackout, no half-way measures—no street lights, no electric signs, and no lights in homes that are visible from outside. Citizen pedestrians (not aliens) may be on the streets until 10:00 p.m., and automobiles may move until 8:00 p.m. provided their lights are properly prepared to give off no light visible from above, but to serve only as a guide to the "other fellow."

These are some of the outward visible changes, but there have been other changes too. Everywhere one senses an increased feeling of determination to see this thing through to a victory as quickly as possible. There are changes almost daily in business methods and relationships; but of course you are having that situation on the mainland also.

To get to some of the details which we hope may be of special interest:

On the morning of December 7th I was at breakfast with Mrs. Lowrey and our daughter, Mrs. Hamlin, when there came a telephone call that an explosion had occurred on the top floor of the Lewers & Cooke Building, which had set off our fire alarm gong. Knowing that there were a number of men in the building, I started down immediately. On the way down I noticed that there seemed to be an unusual amount of firing but thought it was only extra strenuous maneuvers of which we had been having many.

On arrival I found the street floor partially flooded with water which was coming through the ceiling and was beginning to flow into the basement. Mr. Paris, whom most of you know, had arrived just ahead of me and had directed the shutting off of the water. An investigation showed that an anti-aircraft shell had gone through the roof and exploded on the third floor, cutting the fire prevention sprinkler system. Fortunately, no one was hurt. While there was some damage caused by the shell fragments, much more was caused by water. The loss, amounting to several thousand dollars, was covered by War Damage insurance which we had taken out four months earlier. A similar shell hit our lumber yard, and flying shrapnel fell on our warehouses, but no serious damage was caused at either place. We rapidly called in approximately 100 employees and by nightfall had removed most of the debris and restored a semblance of order. It was mid-morning before we realized that we had undergone a Japanese attack, and even then we could not believe it.

After about 9:00 a.m. on December 7th, and for several days thereafter, things happened fast. Martial Law was declared; blackout regulations were promulgated; civilian police and fire departments were augmented; physicians and nurses were called into service; the Office of Civilian Defense was mobilized; Red Cross and First Aid stations were fully manned; curfew was declared; liquor stores were closed; schools, both public and private, were closed; censorship was established on mail, cable and wireless messages; practically all of the structural material in town was requisitioned by the military.

Rumors flew thick and fast, many of which you no doubt heard on the mainland, including such rumors as the landing of parachute troops and sabotage stories. Most of them were not true, and all of the serious ones were shown by the report of the Tolan Committee of Congress to be without any confirmation whatever.

Through all of this the civilian population remained calm. There was not a hint of panic in any section, and people went about the business of cleaning up in an orderly manner.

It was indeed fortunate that on December 7th Lewers & Cooke had on hand one of the largest inventories in its 90 years of existence. Before noon on that day orders began rolling in from all branches of the services. Our crews worked day and night, and by April 1 our inventory had been reduced by 70%. Shipping was quite badly disorganized during January, February and March, and what materials did come in were emergency supplies for the Army and Navy. About February the Office of the Military Governor set up a priorities system for shipping, known as the Materials and Supplies Division, and by April materials were moving in as orderly a manner as could be expected under the difficulties of the convoy system. By this time many of our shelves were bare, and our lumber yard, except for the sills, resembled a baseball field on an off day.

For years back our sales policy has been based on substantial amounts of business from the Army and Navy, but much the larger share of our business has come from civilian requirements of individuals and businesses. Now, and for some time to come, there will be practically no building of private homes and very little business building—construction will be limited to those projects which have definite military importance. We will probably see less construction for private interests than you on the mainland because of transportation difficulties and because of our greater need of labor for war activities. Very properly, the Army and Navy have first call on materials and labor. The Office of Civilian Defense is granted the next call. Of course the utilities and basic industries are still operating, but they are keeping their requirements to a minimum. There is very little material or labor left available for private use. All essential materials are controlled by the Office of the Military Governor. In September over 80% of our sales of materials and services were made directly to the Army, the Navy, the O.C.D. or to contractors working for them. Other sales were really a part of war activity but not made directly to these agencies.

Military law, which was declared on December 7th, has operated very well in general. The Military Governor called in several prominent civilians to advise and help him with the preparation of an organization to meet the emergency. Recently, the Military Governor and the civilian Governor have agreed on the restoration of limited authority to the civilian courts. Depending wholly on the course of the war, we feel sure that there will be a gradual restoration of other civilian rights, but most of us agree that very definite military control is still needed. Under military law every person on the Island, citizen and alien alike, over six years of age, has been registered, fingerprinted, immunized and furnished with a gas mask and identification card. This, you will see, was quite an undertaking in itself. We have our own currency, which is the regular currency overprinted with the word "Hawaii," and its use is restricted to the Islands. All bonds and stock certificates, privately owned, are turned over to certain financial institutions

for safekeeping. Gasoline is rationed at the basic rate of 10 gallons per car per month, and tires are limited to very essential uses. For those who want them, liquor permits are issued rationing a limited supply each week. (At the present time dealers' stocks in Honolulu are exhausted).

We have naturally had to reorganize the business somewhat, closing out some lines entirely because the manufacturers cannot supply us; closing out others because there is no market for them in a war zone. This has enabled us to lease parts of our properties to the Army and Navy and occasionally, as an accommodation, we have stored supplies belonging to the Federal Surplus Commodities Corporation. We have had to reduce our usual quality of service, especially delivery, and we sometimes apologize for the quality of service which we give customers, but we cannot do better with the staff available.

Just what the future holds, no man can foresee. Nelson signalled the British fleet at Trafalgar, "England expects every man to do his duty." We know that our country expects the same of us, civilians as well as those in the armed services. In that spirit we will carry on until peace shall come and Hawaii once again be the Paradise of the Pacific.

Best wishes to all.

Cordially,

F. D. LOWREY, President.

Honolulu, Hawaii, U. S. A.

SHOULD ARCHITECTS ADVERTISE?

(Joseph C. Goddeyne, Architect, Detroit)

Architects have waited entirely too long watching the contractor who gives "complete services" take business that righteously belongs to us. Their architectural services are in many instances based on the twelve (12) years experience clause in the registration act or building concerns employing designers who find it easy to get an official legal seal, which is all the law requires, and is usually accepted without question by all city building codes,—all of which is exceedingly regrettable.

I have constantly heard how unethical it is to advertise. On the other hand it has been repeated that public speaking, business training, active membership in social clubs, etc., etc., are so necessary in the profession. We recognize that these attributes are so essential yet we try to accomplish the ends surreptitiously.

The big fellow doesn't need it nor will he subscribe in any sufficient sum to get the information we wish before the public. The rest of us haven't the funds. The need is so great that only a rich exchequer would stand it. But let's not stop on this account, and sit and continue to just talk about it.

Let each of us, in his own locality, promise to spend a certain amount of money for direct advertising, or agree to write informative articles under our signature for the press.

"CONSTRUCTION GOES TO WAR"

The story of the men who built naval bases all over the world for American fighting ships, laid out airfields from which sky attacks are launched, constructed huge industrial plants and army cantonments, is told in a series of bi-monthly transcribed programs now presented by 50 of the nation's major radio stations and two regional networks.

Entitled "Construction Goes to War," the quarter-hour programs are written, directed and narrated by Hardy Burt, commentator on industry and the war. Burt's weekly transcribed series for the U. S. Chamber of Commerce is broadcast by 173 stations under the title, "Action on the Home Front."

"Construction Goes to War" is a dramatized narration produced in the Nation's capital. A short message from a top-ranking government spokesman concludes each program. Featured thus far in these "minute-messages" have been Lieutenant General Brehon B. Somervell, Commanding General, Services of Supply, U. S. Army, and Rear Admiral Ben Moreal, chief of the Navy's Bureau of Yards and Docks.

The Nation's thirty billion dollar war construction program has ranged from Army camp streets to a highway to Alaska, from giant drydocks to naval bases in the Carribean. A specific phase of wartime construction is dramatized in each broadcast.

Naval building projects were described in the initial program in the series, with Burt interviewing a deep-sea diver who helped build a tremendous dry dock under 70 feet of water.

Dramatizing the Army construction program, another broadcast revealed that runways built for military airports are the equivalent of a concrete highway extending from Denver to Tokio; that the airports built for the Army would completely cover the State of Rhode Island, over-lapping considerably into bordering states.

Importance of speed in wartime construction is stressed in the series by pointing out that cantonments had to be built before America's five million man army could be trained, factories erected before munitions could be produced.

Latest program in the series dramatized the building of the 1,800 mile road to American bases in Alaska. A feature of the broadcast was an interview with a nationally-known writer who recently traversed the entire length of the "wilderness road" gathering story material.

The programs are produced as a public service presentation by the Associated General Contractors of America, Washington, D. C.

HOUSE OF TOMORROW

A post-war world in which chemical discoveries will make the present era resemble a "horse and buggy" age is predicted by Theodore G. Joslin, public relations director of the E. I. duPont de Nemours & Company. He declared:

"We will have glass that is unbreakable and glass that will float, wood that won't burn, and laminations of plastic and wood that will compete with structural metals.

"Lighting will be automatic, governed by electric 'eyes' sensitive to outside variations in the daylight

. . . The inner walls will be adjustable, so that several combinations of rooms can be arranged . . . One-half the fuel will heat it. Plastic surfaces will be good for a lifetime of wear. The electric bills will be smaller. To mention just one detail pointing the way: Electric lamps that lasted 1500 hours in 1939 now last 2500 hours, give 12 per cent more light and cost from 12 to 17 per cent less.

"Sealed cooling systems, proved on large scale by aviation, may end in the postwar car the nuisance of adding water to radiators. Weights may be half what they are, saving from 1500 to 2000 pounds of useless load. The power output per cubic inch of piston displacement may double, treble or even quadruple. Fuels may yield 50 miles to the gallon."

STRUCTURAL ENGINEERS ACTIVE

On January 5 the Structural Engineers Association of Northern California held its first meeting of the year at which the new president, James Bertrand Wells, and the vice-president, M. C. Poulsen, were installed. James Bertrand Wells, Professor of Civil Engineering at Stanford University, is prominently engaged in the direction of war training courses as a part of engineering training sponsored by the U. S. Office of Engineering. The vice-president is Chief Engineer for the Port Costa Brick Company, 401 Berry Street, San Francisco, Calif.

The meeting of January 5th was attended by about one hundred structural engineers, practically all engaged in the planning of defense plants, ships, buildings, and other structures constructed for and by the United States armed forces. Principal speakers of the evening were Professor Harmer E. Davis of the University of California and Mr. William W. Moore, Consulting Foundation Engineer of San Francisco, who discussed engineering problems encountered in the taking of soil samples for the determining of safe bearing values of soils to support structures.

President Wells also announced the appointment by the Board of Directors of the committee chairmen for the year 1943 which are as follows:

Public Relations: John J. Gould, Consulting Structural Engineer, 929 Financial Center Building, San Francisco, Calif.

Program: Professor Harmer E. Davis, University of California, Berkeley, Calif.

Legislative: Harold B. Hammill, Consulting Structural Engineer, 381 Bush Street, San Francisco, Calif.

Professional Guidance and Welfare: A. V. Saph, Jr., Consulting Structural Engineer, 431 Rialto Building, San Francisco, Calif.

Membership and Attendance: W. Adrian, Consulting Structural Engineer, 417 Market Street, San Francisco, Calif.

Consulting Practice: H. J. Brunnier, Consulting Structural Engineer, 612 Sharon Building, San Francisco, Calif.

Emergency and Civilian Defense: Harold M. Engle, Consulting Structural Engineer, 110 Sutter Street, San Francisco, Calif.

Structural Engineering Research: M. V. Pregnoff, Member, Hall & Pregnoff, Consulting Engineers, 350 California Street, San Francisco, Calif.

Advisory: M. C. Poulsen, Chief Engineer, Port Costa Brick Company, 401 Berry Street, San Francisco, Calif.

Association News Bulletin: William H. Popert, Columbia Steel Company, Editor.

Building Industry Conference Board: Delegate—L. H. Nishkian, Consulting Structural Engineer, 155 Sansome Street, San Francisco, Calif.

Other members of the Board of Directors are:

Theo. P. Dresser, Jr., Chief Engineer, Abbot Hanks Testing Laboratories, 624 Sacramento Street, San Francisco, Calif.

Sidney S. Gorman, Assistant District Engineer, Shipbuilding Division, Bethlehem Steel Company, Alameda, Calif.

Mac D. Perkins, Consulting Structural Engineer, 110 Sutter Street, San Francisco, Calif.

* * *

William H. Popert, Columbia Steel Company, has resumed editorship of the "Main Street News," official publication of the Structural Engineers of Northern California. The heading says "Daily." How comes we see it only once a month?

* * *

Sidney S. Gorman is now located at the Alameda plant of the Bethlehem shipyard, Webster and Tynan Streets, Alameda. He is in charge of all construction work for the yard.

* * *

L. H. Nishkian has returned from the East where he visited his son, Byron, who is an Ensign with the C.B.'s (or Sea Bees), i.e., the Construction Battalion of the Navy. L. H. has completed his Ordnance Depot for the Army Engineers at Salt Lake City.

* * *

Robins Fleming died recently in New York. Mr. Fleming was a pioneer in the development of design for wind resistance. He lived to be 85 years old.

ARCHITECTS' AUXILIARY MEETING

The January meeting of the San Francisco Auxiliary, State Association of California Architects, was held at the Women's City Club, San Francisco, on January 6. Luncheon was served at 12:30, followed by a business meeting, Mrs. Harold H. Weeks, president, presiding.

Guest speaker was Miss Marjorie Glass, past president of the Professional Career Women. Subject: "California Wines."

Mrs. A. Appleton, chairman of the War Work committee, announced a Christmas gift of cigarettes, books and puzzles, to the convalescents at Mare Island, by the Auxiliary members through their Victory Fund.

War work plans for the Architects' Auxiliary during 1943 were also presented by Mrs. Appleton.

THE ARCHITECT—
STILL ADVANCING ON THE WAR FRONTS

A $14,000,000 CONTRACT

In the last month housing has occupied the attention of Army architects and engineers as well as civilian builders. General contracts for barracks near Mills Field and housing facilities for an Ordnance Company were awarded to H. E. Rahlmann and Jere Strizek. Army housing included facilities at a dog training center. A cafeteria, a recreation building, low pressure chamber buildings, camouflage work, and five comparatively large jobs designated simply as "buildings" also were undertaken for the Army.

The Navy let a $14,000,000 contract to Guy F. Atkinson Co. and Geo. Pollock Co. for additional facilities at San Pedro. One 500-bed hospital addition is under way and another contemplated.

Douglas D. Stone of San Francisco has finished the drawings for the Vallejo hospital, to cost nearly $2,000,000 and now is working on a $320,000 hospital to be built by the city of Pittsburg. There is to be an addition to the Solano County Hospital, a $77,000 job, with drawings by Harry J. Devine of Sacramento.

* * *

The men in the shipyard drafting rooms had a busy month. At Richmond a $50,000 administration and engineering building has been started, also a firehouse and a storage building for the field hospital. Revised drawings are in progress for an additional utility building.

Marinship plans a cafe; the first bids were rejected. That shipyard awarded Heyman Bros. a contract for a storage building. Bethlehem-Alameda are putting up a service building and remodeling a field office building. Pacific Bridge announces that a general contract has been awarded to Fred J. Early, Jr., for a $100,000 cafeteria.

* * *

NEW ALAMEDA PROJECT

War housing continues to expand. A new Alameda project, consisting of 500 apartment units, has been designed by Carl F. Gromme, Francis E. Lloyd and Hervey Clark for employees of Pacific Bridge. The project is sponsored by the Alameda Housing Authority. The same group of architects are doing preliminary drawings on a 40-unit housing project for Westvaco, near Livermore.

Henry Kaiser is going ahead with plans for the additional 4,000 apartment units that he has been promised if the housing survey shows that Richmond needs them. The only new development at Vallejo is that a negotiated contract finally has been signed with N. H. Sjoberg & Son for the five commercial buildings, maintenance building and firehouse, which have been contemplated but delayed for several months. W. W. Wurster and Franklin and Kump have been associated in designing these buildings.

* * *

South San Francisco, one of the neglected housing jams, at last has been given authority to build 415 family dwelling units, 310 units for couples, and 128 dormitory units. The architects are Albert F. Roller and James H. Mitchell, 1 Montgomery Street, San Francisco.

IN MARIN COUNTY

In Marin County, Frederick H. Meyer and Roland I. Stringham have been given two new jobs beside the housing at Hamilton Field. They are to design a small housing project (120 units) near Tiburon, and a camp for 250 trailers at Alto.

Russell G. DeLappe, who did the projects at Benicia and Riverbank, is now at work on 200 dwelling units for the Housing Authority of Napa. Architect Francis Joseph McCarthy is designing dormitories, apartments and dwellings for a project in San Luis Obispo County (Camp Roberts) under sponsorship of the Federal Public Housing Authority. The Defense Plant Corporation has been given federal funds for construction of a small housing project at Dos Palos. No architect has yet been appointed.

An interesting development is the financing of a dormitory, remodeled from a business college building, by the Shipyard and Marine Shop Laborers' Union in Oakland. Miller & Warnecke are guiding this $20,000 job. Architect Paul Hammarberg has designed a 12-unit apartment building for H. Krusi of Oakland, and William Mooser of San Francisco has remodeled a rooming house for Der Back Mon and Der Deep Hong in Chinatown.

Charles E. Butner is at work on another guayule rubber camp—shelters, and utility and administration buildings to be constructed near Woodland.

* * *

There seems to be less lag now between the construction of housing and that of schools. Will G. Corlett, having finished drawings for the high school addition at Napa, has designed a 30-classroom temporary grammar school for Richmond. Harold H. Weeks is the architect on

SCHOOLS COMING BACK

a new grammar school (8 classrooms) and a 5-room school addition for Benicia. El Cerrito is to have a temporary high school, done by Architects Dragon & Schmidts, and in Marin County work is going forward on a new Sausalito grammar school designed by Carl F. Gromme. A Federal grant has been approved for an addition to the Tolenas Grammar School near Fairfield. The architect has not been announced.

A few of the architects and engineers are busy on industrial work. Alben J. Froberg is designing several buildings for the Pacific Steel Casting Co. of Berkeley. John B. Anthony has completed drawings for a $30,000 factory for the Ralph N. Brodie Co. of Oakland, and R. F. Keefer the drawings for a $22,000 plate shop building for the Hurley Marine Works.

Architect John H. Christie of the Southern Pacific Company has a remodeling job on his hands—the S. P. station at the Oakland Pier. Harry Thomsen, Jr., and Engineer W. Adrian have been associated on a $15,000 strengthening of a retaining wall for the Taylor-Spotswood Company.

Some civilian defense work is being undertaken by municipal architects and engineers—construction such as the auxiliary firehouses in San Francisco and Oakland's 11 equipment depots.

* * *

WHAT! NO ARCHITECTS?

At the end of the list it seems worthwhile to mention some jobs to which no architects have been assigned, but might be logically. The Di Giorgio Farms, Inc., of Arvin soon are to start construction on several vegetable dehydrating plants. The Sebastopol Fruit Growers' Association plans a $15,000 packing building, and in Monterey, Marinefone, Inc., are dickering for a site on which to build a new factory. At Winters the Union High School District is planning a $100,000 high school to replace the one that recently burned.

Obviously it would be to the public's advantage, as well as the architects, if more professional men were involved in the assembly-line homes being put up by some commercial builders. Firms that are doing work continuously, houses by the dozen, score, or even hundreds, include:

DeLuxe Homes, Inc., 1 Drumm Street, San Francisco
Lucky Homes, Inc., 1330 Davis Street, San Leandro
Sterling Homes, 111 E. 14th Street, San Leandro
O. K. Holt, 3957 Army Street, San Francisco
Standard Homes, Inc., 1 E. 14th Street, San Leandro
J. L. Binet, 1416 Q Street, Sacramento

AN ARCHITECT SKETCHES HIS OWN HOME

PACIFIC PAINT & VARNISH CO.
A Paint or Varnish Product for Every Purpose
SAN FRANCISCO Sales Office
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ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Editor
William C. Ambrose

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GREEN LIGHT

Most architects and engineers, nowadays, are having to watch their steps very closely. The going is rough, and the road ahead not too certain for any individual, though the path to national victory may be a bit more clear than it was a year ago. So when we on the West Coast lift up our eyes and see what seems to be a green light far in the distance, it may really be a "GO" signal to better times ahead.

A reason why we do not believe that we are seeing a mirage, or an aurora borealis is the statement of the census takers that California has a population of 7,660,000 as of January 1st, 1943. That figure does not include the military personnel in the State, or the Japanese population. That 7,660,000 is an increase of 750,000 persons above the number resident in the state on the date of the national census in 1940, which was two years and nine months ago. These figures mean that the population, hereabouts, is increasing even faster than it did in the first three years of the nineteen-twenties, and three times as fast as in the first three years of the nineteen-thirties. You will remember that in those latter three years we were receiving a very numerous Joad family from the region once labeled on our old geographies "The Great American Desert," and which later became familiar as the "Dust Bowl."

An increase in population means, first of all, that the increase must be housed. The newcomers will not return, in any large numbers, to their former homes. Many will seek better living accommodations than the present war housing makes possible. A general shifting of population within the western area is indicated. This means not only more dwelling units, but also more commercial structures, more schools and churches, and the rehabilitation of existing structures, all to take care of the dispersal from the war slums. Some of our Federal officials even promise that the temporary war housing structures may be torn down! And one must not forget that the baby crop is again on the increase. The Far West has been prodigal, in times past, in provision for its children in schools and recreation centers. The new comers will not be less liberal.

When we add together the accumulated demands of normal growth and change, which have been tightly sealed for the duration, and the business and housing space required by the new residents, we must conclude that there is work to be done in the post-war period. The Green Light is flashing down the road.

Planning The officers of the State Association of California Architects are fully aware that a vigorous sapling will yield the best fruit in years to come only if it is carefully cultivated and trained in its growth. Their plans for the coming year, therefore, are to clear the way for the use of the profession so that progress for peace may be started now. They have faith that the public welfare will best be served by having

work properly planned by the men who have spent their lives learning and practicing the processes of planning.

In particular, the State Legislature is now in session, and there are items of vital interest to architects which should be acted upon at this session. Of paramount importance to both the public at large and to the architects is the authority of sub-divisions of the State to expend money for plans of projects, the actual construction of which will be deferred until the winning of the war.

School, county, and other boards must not be held back in expenditures for the preparation of plans. It is vitally necessary that carefully considered and comprehensive planning be done now to take care of the inevitable post-war crisis. Unless plans are ready "when the lights go on again all over the world" the result will be frantic haste to start the dirt flying. There will be no time to wait for the proper preparation of plans. The result will be extravagance and waste, ill considered projects poorly conceived, and poorly worked out. The country can ill afford to add the waste of unpreparedness for peace to the wastes of war.

We hope and pray that by the time the legislature convenes two years from now the crisis of peace will be upon us. "Too little and too late" must not happen to intelligent planning. It must be made possible now, in time of war, for our civil administrators to plan for peace, in the same way that war chiefs must plan for hostilities long before the first gun is fired.

End of the War

Our crystal ball is too milky for us to name the year and month of the ending of the war. But there are definite signs that the high tide of Axis success may have begun to ebb. With the slackening of the demand for the talents of the planners for the structures of war, there is created a pool of talent for the planning for peace. A major effort must be made to have the civil administrators dip into that pool so that there will be no "Pearl Harbor" of peace.

Resolutions

The final session of the recent Convention of the State Association of California Architects received resolutions which were referred to the Resolutions Committee, composed of Ernest E. Weihe, chairman; Wm. Barber, Loy Chamberlain, M. D. Reynolds and Geo. S. Wilson. The committee conducted a postcard vote of the Association membership on the resolutions offered and received an almost unanimous approval. The resolutions were as follows:

RESOLUTION No. 1.

RESOLVED THAT: Article V, Section b, of the By-Laws of The State Association of California Architects be amended to read as follows:

"The Advisory Council of each Section shall convene in annual meeting as provided in Article II, Section i, of these By-Laws. Voting by District, the Advisors shall nominate the Officers and Directors of their respective Sections for the ensuing year. Absent Advisors may nominate by written proxy. The Section Secretary shall be provided with the list of nominees and shall then, not less than fifteen (15) days prior to the Annual Convention, mail a ballot form with self-addressed return envelope to each member of the Section. This form shall contain an equal number of blank spaces where additional names may be written in. The ballot forms so returned by mail or presented at the Convention shall be counted at the Convention and the Officers and Directors so elected shall take office at the conclusion of the Convention.

RESOLUTION No. 2.

RESOLVED THAT: The State Association of California Architects favors the continuance of study of the matter of grading the quality of workmanship in the various building trades with the object that ultimately, in normal times, a code or system of designation of quality of workmanship may be established to serve in the determination of the quality of work performed under contract or otherwise.

RESOLUTION No. 3.

RESOLVED THAT: A sincere expression of appreciation be extended to the Producers' Council Club of Northern California for their participation in the Fifteenth Annual Convention of The State Association of California Architects.

RESOLUTION No. 4.

RESOLVED THAT: All Governmental Agencies and Housing Authorities be urged to avail themselves, through local Architects, of information already existing concerning local conditions pertaining to building matters, instead of pursuing the practice of establishing independent and separate research agencies in various localities; all with the object of expediting work and avoiding repetition of effort.

RESOLUTION No. 5.

RESOLVED THAT: The recent rulings of the Attorney General of the State of California in matters concerning hearings for disciplinary action held by the State Board of Architectural Examiners be published in trade and professional journals, and that The State Association of California Architects keep on file copies of same for future reference by interested parties.

Captain of Engineers

Wayne Hertzka, Ex-President of the State Association, did not join the Navy to see the world, but is evidently getting around. We don't know where he is, but a Christmas card received from him had, as background, a map of England and Ireland. At last word from him he was a Captain of Engineers.

Southern Section

At the December meeting of the Southern Section, State Association of California Architects, Dr. Floyd L. Ruch of the University of Southern California, gave a talk on "Propaganda Methods of the Axis." Dinner preceded the entertainment hour.

Lieut.-Col. T. George Hazenbusch, camouflage officer of the Pacific Division, United States Army, was guest of honor at the meeting.

Announcement of the induction of Richard White, investigator for the State Board of Architectural Examiners, into the armed forces was reported by President Hagedohm. Citing the work done by White in bringing the architects' problems before the last session of the Legislature, the report said he had done more to create respect for the profession than any other man.

SPECIAL NOTE—War conditions make these prices and wage scales subject to change without notice.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.
Government work ¾%.

Brickwork—

Common, $40 to $45 per 1000 laid, (according to class of work).

Face, $90 to $100 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.00 lin. ft.

Brick Veneer on frame buildings, $1.00 sq. ft.

Common f.o.b. cars, $15.00 at yard. Cartage extra.

Face, f.o.b. cars, $40.00 to $60.00 per 1000, carload lots.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sealkraft, 500 ft. roll	5.00
Cash cord com. No. 7	$1.20 per 100 ft.
Cash cord com. No. 8	1.50 per 100 ft.
Cash cord spot No. 7	1.90 per 100 ft.
Cash cord spot No. 8	2.25 per 100 ft.

Cash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Cash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.45 per ton at bunker; delivered to any point in S. F. County $1.85.

	Bunker	Delivered
Top sand	$1.45	$1.85
Concrete mix	1.45	1.85
Crushed rock, ¼ to ¾	1.60	2.00
Crushed rock, ¾ to 1½	1.60	2.00
Roofing gravel	1.60	2.00
Pea gravel	1.45	1.85
River sand	1.50	1.90

Blank sand—$1.00 per cubic yard at bunker or delivered.

SAND—

	Bunker	Delivered
River sand	$1.50	$1.85
Napis (Nos. 2 & 4)	2.00	2.40
Olympia Nos. 1 & 2	1.80	2.20
Healdsburg plaster sand	$1.80 and	$2.20
Del Monte white	50c per sack	

Common cement (all brands, paper sacks) carload lots $2.52 per bbl. f.o.b. car; delivered, $2.80; less than carloads delivered, 70c per sack.

Cash discount on carload lots, 10c a barrel, 10th Prox.; cash discount less than carload lots, 2%.

Lass White, Caveras White, Peduse White } 1 to 100 sacks, $2.00 sack, warehouse or delivery.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	2¼x2¼" T&G	3/8x2" T&G	⅝x2" Sq.Ed.
Clr. Otd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$43.00 per M
No. 2 common	41.00 per M
Select O. P. common	46.00 per M
2x4 No. 3 form lumber	32.00 per M
1x4 No. 2 flooring VG	90.00 per M
1x4 No. 3 flooring VG	85.00 per M
1x6 No. 2 flooring VG	96.00 per M
1¼x4 and 6, No. 2 flooring	95.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	48.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.45 per bdle.

Plywood—Douglas Fir (add cartage)—
"Plyscord" sheathing (unsanded)
⅜" 3-ply and 48"x96" ..... $39.75 per M
"Piywall" (wallboard grade)—
¼" 3-ply 48"x96" ..... $43.70 per M
"Plyform" (concrete form grade)—
⅝" 5-ply 48"x96" ..... $117.30 per M
Exterior Plywood Siding—
⅜" 5-ply Fir ..... $132.00 per M
Redwood (Rustic) 1"x8" clear heart .. $ 95.00 per M
$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $120.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, 65c per gal., in 5 gal. cans, and 55c per gal. in drums.
Raw Linseed Oil—95c gal. in light drums.
Boiled Linseed Oil—98c gal. in drums and $1.01 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11 3/4c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12 1/2c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11 3/4c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12 1/2c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12 3/4c
500 lbs. and less than 1 ton	13c
Less than 500 lb. lots	13 1/2c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.50
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	.72
3 coats, metal lath and plaster	1.25
Keene cement on metal lath	1.30
Ceilings with 3/4 hot roll channels metal lath (lathed only)	.90
Ceilings with 3/4 hot roll channels metal lath plastered	1.80
Single partition 3/4 channel lath 1 side (lath only	.85
Single partition 3/4 channel lath 2 inches thick plastered	$2.90
4-inch double partition 3/4 channel lath 2 sides (lath only)	1.70
4-inch double partition 3/4 channel lath 2 sides plastered	3.30
Thermax single partition; 1" channels; 2 1/4" overall partition width. Plastered both sides	2.50
Thermax double partition; 1" channels; 4 3/4" overall partition width. Plastered both sides	3.40
3 coats over 1" Thermax nailed to one side wood studs or joists	1.25
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75

Wood lath, $5.50 to $6.50 per 1000.
2.5-lb. metal lath (dipped) .19
2.5-lb. metal lath (galvanized) .21
3.4-lb. metal lath (dipped) .22
3.4-lb. metal lath (galvanized) .24
3/4-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $19.50 ton.
Plasterers Wage Scale $1.67 per hour
Lathers Wage Scale 1.60 per hour
Hod Carriers Wage Scale 1.40 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4 1/2" Exposure 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure 9.00 Square
4/2 #1-24" Royal Shingles, 7 1/2" Exposure 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 1.00
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is the average for comparatively small quantities. Light truss work higher. For beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00. Buff $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner and center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)
Asphalt Tile—18c to 28c per sq. ft. installed.
Wall Tile—
Glazed Terra Cotta Wall Units (single face) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft.
4 x 6 x 12	1.15 sq. ft.
2 x 8 x 16	1.10 sq. ft.
4 x 8 x 16	1.30 sq. ft.

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1942 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

*6-hour day **7-hour day

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37 1/2	$1.12 1/2	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.75	* 2.00	* 1.79-1/6	* 1.75	* 1.75
BRICKLAYERS' HODCARRIERS	* 1.35	* 1.25	* 1.05	* 1.25	* 1.05	* 1.35	* 1.35	* 1.40	* 1.14
CARPENTERS	1.37 1/2	1.37 1/2	1.25	1.37 1/2	1.25	1.25	1.37 1/2	1.25	1.25
CEMENT FINISHERS	1.37 1/2	1.37 1/2	1.25	1.25	1.25	1.50	.....	1.25	1.75
ELECTRICIANS	1.50	1.50	1.50	1.37 1/2	1.50	1.50	1.50	1.50	1.37
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37 1/2	1.25	1.50	1.37 1/2	1.62 1/2	1.37 1/2	1.37 1/2	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62 1/2	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12 1/2	1.25	1.12 1/2	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31 1/4	1.37 1/2	1.31 1/4	1.37 1/2	1.31 1/4	1.25	1.31 1/4	.....
Reinf. Rodmen	1.50	1.31 1/4	1.31 1/4	1.31 1/4	1.31 1/4	1.60	1.31 1/4	1.31 1/4	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37
LABORERS: Building	.85	.82 1/2	.82 1/2	.81 1/4	.85	.81 1/4	81 1/4	.81 1/4	.80
Concrete	.87 1/2	.93 3/4	.90	.81 1/4	.92 1/2	.....	.85	.90	.90
LATHERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.60	* 1.75	* 1.75	* 1.50	* 1.50
MARBLE SETTERS	1.43 3/4	1.25	1.25	1.31 1/4	1.37 1/2	1.25	1.31 1/4	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12 1/2	1.12 1/2	1.15-5/8	1.12 1/2	.....	.....	.....
PAINTERS	** 1.37 1/2	** 1.50	** 1.28-4/7	** 1.37 1/2	1.25	** 1.35-5/7	** 1.42-6/7	** 1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	* 1.66-2/3	* 1.66-2/3	* 1.75	* 1.66-2/3	1.75	* 2.00	* 2.00	* 1.75	* 1.83 1/3
PLASTERERS' HODCARRIERS	* 1.50	* 1.45	* 1.40	* 1.40	* 1.18 3/4	* 1.35	* 1.75	* 1.40	* 1.50
PLUMBERS	1.52 1/2	1.50	1.53-1/8	1.50	1.56 1/4	1.62 1/2	1.50	1.50	1.37
ROOFERS	1.37 1/2	1.37 1/2	1.12 1/2	1.25	1.25	1.37 1/2	1.25	1.25	1.25
SHEET METAL WORKERS	1.37 1/2	1.37 1/2	1.43 3/4	1.37 1/2	1.50	1.50	1.37 1/2	1.25	1.37
SPRINKLER FITTERS	1.50	1.37 1/2	.....	1.25	.....	1.62 1/2	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53-1/8	1.50	1.56 1/4	1.62 1/2	1.50	1.50	.....
STONESETTERS (Masons)	* 1.50	* 1.75	1.50	* 1.75	* 1.75	* 1.50	1.75	* 1.75	* 1.50
TILESETTERS	1.50	1.37 1/2	1.37 1/2	1.37 1/2	1.37 1/2	1.50	1.50	1.37 1/2	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

1943 U. S. STEEL OUTLOOK

United States Steel Corporation faces the new year with determination to do its part in expanding "the battle of production" to meet the growing requirements of materials and equipment needed for complete victory. While American industry can well be proud of the production miracle performed during the first year of our participation in the world conflict, there should be no feeling of complacency. As evidenced by their accomplishments during 1942, both management and workers realize that the magnificent courage of our armed forces must be matched on the home front by an even greater application to the job of full production. Our country's over-all war expenditures next year may reach a total of around $90 billion, compared with approximately $53 billion in 1942.

While producing the vital weapons for victory is presently the all-absorbing and essential objective, American businessmen should be aware that after victory will come another challenging test—the solution of the many problems and re-adjustments of the post-war era. To the extent that an intensified prosecution of the war will permit, careful thought should now be given to the transition from a war to a peacetime economy which will be in the public interest and not destructive of our established American system of free private enterprise.

United States Steel Corporation is justly proud of the notable production records of its subsidiary companies during 1942—accomplishments which have won for many of these companies official recognition by the War and Navy Departments and the Maritime Commission, and which reflect great credit upon the zeal and patriotism of both workers and management.

Outstanding among more than one thousand new records was the production by United States Steel subsidiaries of approximately 30 million tons of steel ingots during 1942, as compared with a little less than 29 million tons in 1941, and 23 million tons in 1940. Practically all of United States Steel's vast mountain of steel made in 1942 went into direct or indirect war effort.

United States Steel Corporation, either at the request of the Government or on its own initiative, is rapidly completing the largest expansion of plant facilities in its history, involving an aggregate expenditure of around $740 million. The Corporation's share of this alone is $305 million—the remainder being for the account of the Government. Most of the new plants are expected to be in operation by the middle of the new year. The facilities of the steel industry, including these units and numerous new plants which are being built by other steel companies, should insure the great flow of steel necessary for victory.

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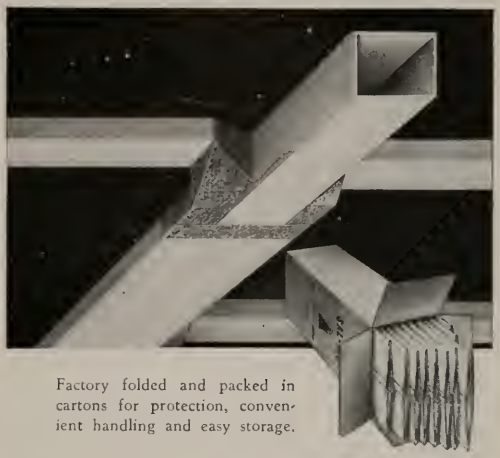

Factory folded and packed in cartons for protection, convenient handling and easy storage.

SAL-MO Supply Duct (S-S-D) is the new conduit material for constructing both supply and return ducts for warm air heating, ventilating and air conditioning systems. It saves metal, permitting many installations that would otherwise be impossible because of the metal shortage.

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Designed by Vernon De Mars, District Architect for the FSA

There are 38 dormitory buildings — 32 for men, 5 for women

Each dormitory houses 78 tenants — total number housed in the dormitories, 2,964.

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NAPA, CALIFORNIA

WAR HOUSING WEEK

War Housing Center managers from ten critical housing areas in California and two in Arizona met early this month with Donald Kirby, Regional Director of the Homes Use Service, to discuss preparations for the "War Housing Week" proclaimed for January 24 to 30.

Robert Dier, Regional Conversion Director, recently returned from Washington, D. C., will instruct the housing officials in the latest phases of home and building lease and conversion plans to provide additional war housing for war workers and their families.

Dier said that machinery for speeding up the vital program has been set in motion through cooperation of the War Production Board. The WPB has issued a blanket preference rating of AA-3 to permit deliveries of material for use in NHA construction.

Also NHA has given momentum to private incentive by allowing real estate brokers to collect commissions for handling details of housing conversion leases between the government and owners of private dwellings, and by stepping up conversion expenditure permits to include $2,500 a unit as well as permitting landowners to lease a part of a building as well as the whole.

Kirby pointed out that during the "War Housing Week," proclaimed in San Francisco by Mayor Rossi and to be observed throughout California, the public will be informed of the critical housing shortage and asked to support the program of renting guest rooms, apartments and homes to war workers, of privately financing living facilitity additions to existing structures; of leasing stores, old homes and housing space to the government for conversion to war housing and of encouraging out-migration of non-essential pensioners and others to communities providing adequate housing.

LEGION OF HONOR ADDITIONS

Through the generosity of H. K. S. Williams, Mrs. Alma Spreckels Awl and other Westerners, the California Palace of the Legion of Honor, in San Francisco, starts the New Year with many new and substantial additions to its permanent collections.

To the Mildred Anna Williams collection have been added the following: "Portrait of Master James Hatch," by Sir William Beechey (1753-1839); "French Village," by Jean Charles Cazin (1840-1901); "The Mendicant," by Thomas Couture (1815-1879); "Still Life," by William Claez Heda (1594-1680/2); "Portrait of a Man," by Bartholmeus van der Helst (1613-1670); "Girl Reading," by Jean Jacques Henner (1829-1905); "The White Cuckatoo," by Melchior Hendecoster (1636-1695); "Portrait of the Artist's Daughter, Marguerite," by Henry Howard (1769-1847); "The Pancakes," by Joseph Israels (1824-1911); "Portrait of a Man," by Nicolaes Maes (1632-1693); and "Portrait of a Woman," by Nicolaes Maes (1632-1693).

Mr. Williams also presented to the California Palace of the Legion of Honor the following works to broaden the scope of the collection's group of paintings by American artists: "Beach Scene," by Alfred T. Bricher (1857-1908); "Portarit of Harriet Hubbard Ayer," by William M. Chase (1849-1916); "Lake George," by Louis Eilshemus (1864-1941); "Girl and Calf," by George Fuller (1822-1884); "Paper Mill Creek," by Thomas Hill (1829-1908); "Landscape," by George Inness (1825-1894); "Moonlight," by George Inness (1825-1894); "Visit to Grandpa," by Charles Nahl (1818-1875); "The Blue Veil," by Edmund Tarbell (1862-1908); "Spring, Central Park," by Manuel Tolegian (b. 1912); "An Old Saint," by Harry Watrous (1857-1942); "Muse of Music," by J. Alden Weir (1852-1919); "Cogitation," by Thomas Waterman Wood (1823-1903); and "Landscape," by Alexander Wyant (1836-1892).

A particularly noteworthy gift of the year, comprising eight bronzes and two marbles by Auguste Rodin (1840-1917), was presented by Mrs. Alma Spreckels Awl. In donating these important pieces, Mrs. Awl has completed presentation to the Museum of her entire Rodin Collection. The museum is now the possessor of one of the most representative collections of the work of this great sculptor to be found anywhere.

The new works are—Bronzes: "Torso," "Bust of Victor Hugo," "Bust of Victor Hugo" (small study), "The Mighty Hand," "Wounded Lion," "Fugit Amor," "Faun and Nymph," "Man with the Broken Nose" (small study); Marbles: "Hand of Victor Hugo," and "Small Seated Female."

Other donations to the Museum included "Mother and Children," attributed to Carlo Cignani (1628-1719), the gift of Mrs. George P. Dyer; a group of watercolors, drawings and prints by Wassily Kandinsky (b. 1866); Alexei Jawlenski (b. 1864); Arthur B. Davies (1862-1928); Boris Deutsch (b. 1895); and Pamela Bianco (b. 1898), given by Mrs. J. L. Wolf in memory of Miss Rachel Abel; "Snow at Uzerche," by Abel Warshawsky (b. 1883), the gift of Mr. Kenneth Slaughter; a Norwegian chalice, given by Mrs. Richard P. McCullough; and, from the estate of the late Albert M. Bender, a cash bequest of one thousand dollars. Books were presented to the Museum library by Mrs. Alma Spreckels Awl, Mr. Alfred Frankenstein, Mrs. Richard P. McCullough and Mr. H. K. S. Williams.

SOUTHERN CALIFORNIA CHAPTER

Southern California Chapter held its annual social meeting at the Jonathan Club, Los Angeles, December 15th. Especially honored were the wives of architects now serving in the Army, Navy and Marines.

John C. Austin welcomed new members into the Chapter and presented an associate membership to Harvey Barton Smith, and a Junior Associate Certificate to John Edward Lautner, Jr. Other new members, not present, were also named and welcomed: Associate

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Member Norman Luther Low (now in Hawaii), and Jr. Associates Lee B. Kline, Denver Markwith, Jr., and Henry L. Sylvestri. Mr. Austin who holds the longest active membership in the Southern California Chapter, reviewed the growth and achievements of the group during the past 50 years, and stated that the near future holds the greatest opportunity so far for the practice of architecture in this area.

The Certificate of Fellowship in the American Institute of Architects recently awarded to Robert H. Orr, was presented by Pierpont Davis. Mrs. Orr received the certificate in the absence of her husband.

The guest speaker of the evening was Richard Atkinson, past-president of the L. A. Adventurers' Club, who talked on "Russia and the World Today."

He spent many years in Russia, and was the last foreigner to leave the Russian-German front. Mr. Atkinson reviewed the development of the people of the Soviet Union, making a clear explanation of his belief in their future, and in their ability to conquer Germany. He painted a vivid and withal encouraging picture of Russia, a socialistic, not communistic state, and commended the increase in education, and their scientific progress during the past year.

LEGION OF HONOR FEBRUARY EVENTS

The California Palace of the Legion of Honor has announced the following schedule of exhibitions and special events for February:

"Our Leading Watercolorists" (Circulated by the Museum of Modern Art): opening February 13.

"An Exhibition of Modern Glass": opening February 16.

"Henry Eichheim Memorial Exhibition": opening February 9.

"Soldiers of Production": through February.

"Watercolors by Charlotte Berend": opening February 16.

"Stage Designs by Robert Edmond Jones": through February 14.

"Masks by Wladyslaw Benda": through February 14.

"American Artists, Past and Present": through February 14.

"South American Colonial Silver": from the collections of Mr. and Mrs. Robert Woods Bliss and Mr. and Mrs. Fernando Berkemeyer; through February 14.

Junior Museum

"Models of Aircraft": opening February 6.

"Paper Dolls of Today and Yesterday": opening February 6.

PAINT RACKETEERS IN THE SOUTH

Racketeering under the guise of war necessity was today charged against some paint substitute applicators in Southern California by the Contractors' State License Board and the Los Angeles Better Business Bureau in a joint indictment of high pressure so-called "contractors."

The argument that no new homes are available and that new asbestos treated "plastics" superesede paints and refinish buildings for a lifetime, is being effectively used, it is charged, by salesmen numbering in the hundreds in Southern California alone. Allen Miller, Registrar of Contractors, and F. B. Jennings, merchandise manager of the Better Business Bureau, jointly state: "We are alarmed by the volume of business and the business methods used by selling organizations practising variations of the racketeering methods developed in Southern California's modernization campaigns of a few years past.

"Free jobs are promised to owners who think they are getting a cheap price for a model job, whereas they actually sign contracts and get no guarantees of rebates to meet their payments. The price is often terrifically high, and a number of the jobs are peeling or discoloring according to owners' complaints."

Investigations of a number of contractors using the new materials are under way by the State License Board and laboratory tests of the products are being sought.

NOW IT'S MAJOR FRYE

From First Lieutenant to Captain and now to Major is the meteoric rise of another Southern California Chapter member (associate), Chas. C. Frye, son-in-law of John C. Austin, F.A.I.A.

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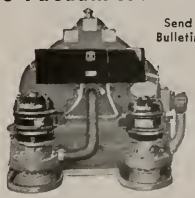

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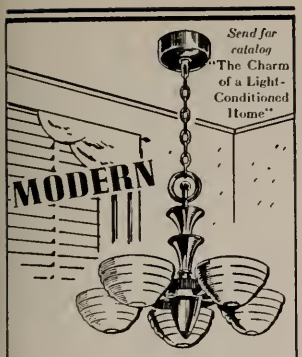

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CONCRETE CONSTRUCTION

National emergency specifications for the design of reinforced concrete buildings became effective January 1.

The date was set in an amendment to a directive, issued October 5, which placed the deadline for compliance on December 5 (WPB-1972). However, there was a delay in printing the specifications in a booklet which became available only recently in sufficient quantities for general distribution.

Agencies handling contracts were urged, nevertheless, to put the emergency specifications into immediate effect wherever possible.

Booklets are available at WPB field offices.

MIDWEST POWER CONFERENCE

The Midwest Power Conference arranged by Illinois Institute of Technology will not be a war casualty.

Stanton E. Winston, director of the conference, a professor of mechanical engineering at Illinois Tech., has revealed that plans are now being made to hold the 1943 conference as usual. As evidence of this fact, Mr. Winston has also announced that a keynote speaker and a speaker for the "All-Engineers' Dinner" have already been secured.

C. W. Kellogg, president of Edison Electric Institute, New York City, will be the keynote speaker. Colonel L. Walsh, war chairman of the American Society of Mechanical Engineers, will be the speaker at the "All-Engineers' Dinner," the annual social highlight of the conference. His topic will be "Logistics, the Science of Survival."

Dates for the 1943 Midwest Power Conference will be Thursday and Friday, April 9 and 10. Place, as usual, will probably be the Palmer House, Chicago.

STRUCTURAL STEEL

The efforts of the War Production Board to conserve the use of steel for more critical war purposes have shown their effect in the monthly booking reports of fabricated structural steel received by the American Institute of Steel Construction. New business booked during November

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amounted to but 45,972 tons, the lowest on record since the termination of World War I in 1921. Current operations, however, based upon orders previously booked hold up fairly well, the backlog of the industry being 566,581 tons on December 1.

New orders booked during November were but little over one-third of the volume booked during the same month of 1941. Shipments of fabricated structural steel during November amounted to 127,052, representing a decline of thirty per cent from the volume shipped during the same month last year.

ERA OF PREFABRICATED HOUSES

The prefabricated home developed by American industry to meet the unprecedented housing demands of a warring nation foreshadows a new era of peace-time housing.

That is the opinion of Norman Bel Geddes, famous designer, who visualizes streamlined homes rolling from post war assembly lines like automobiles and combining low cost sturdiness with heretofore unknown comforts and beauty.

Based on production lessons being learned today under the pressure of war, the prefabricated house of tomorrow will incorporate dozens of revolutionary ideas and designs for greater beauty and streamlined utility, the designer prophesied.

That prefabricated homes can be produced on an assembly line basis is being demonstrated daily by several of the nation's leading industries.

According to Mr. Bel Geddes and other designers, the prefabricated house "has been one of the most important answers to our government's serious housing shortage problem."

"The lessons learned by these industries under the strain of war-time production will stand many of them in good stead in the peace-time production of the prefabricated home of tomorrow," Mr. Bel Geddes said.

FIRE BOMBS

What kind of bombs may the enemy drop on our cities? Will it be intensive types such as magnesium

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and thermit? Scatter types such as solidified oil or phosphorus? Fire bombs with delayed explosive attachments? Combinations of these? Or perhaps even newer types?

Until the late summer of 1942, the fire bomb most commonly dropped was the small 2.2 pound magnesium incendiary which sometimes contained an explosive charge. A single bomber could carry as many as 2000 of these tiny bombs, and dropped in a concentrated area they could start hundreds of fires simultaneously. More recently, the enemy has used several new types of incendiary bombs, some of which contain delayed and heavier explosive charges. O.C.D. Director James M. Landis declared: "These new explosive incendiaries are a good deal more dangerous than the type previously used."

For further information communicate with Randolph Feltus, Chief, Editorial Section, Office of Civilian Defense, Washington, D.C.

82,000 WAR HOUSING UNITS

More than 82,000 public dwelling units to house war workers have been authorized for construction in California, Arizona and Nevada since the war housing program began in 1941.

In making this anouncement, Eugene Weston, Jr., regional representative of the National Housing Agency said that 90 per cent of this war housing is authorized for construction in California, divided largely between San Francisco, Oakland metropolitan district, Los Angeles and San Diego.

"At the present rate of construction," Weston declared, "approximately 200 public units are completed every day in California alone. These are being constructed by public funds and do not include the hundreds now being built with private funds."

Weston pointed out that prospective builders of war housing may now get for the asking a manual combining in handy form the rules and regulations governing this type of private construction and suggestions for speeding building applications.

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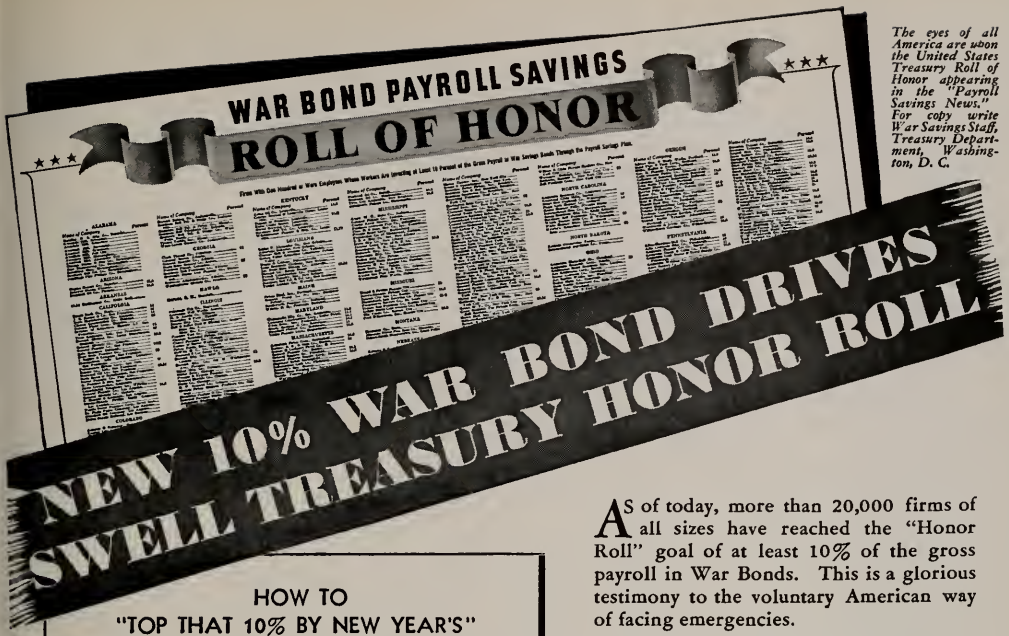

The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

AS of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

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WAR DORMITORIES IN TRANSITION—VALLEJO, SAUSALITO

RESISTANCE OF REINFORCED CONCRETE STRUCTURES TO AIR ATTACK

NEXT MONTH—"Wings Over Architecture"—Will Tremendous Growth of Aviation Affect Post-War Planning?

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NEXT MONTH

"Wings Over Architecture and Construction," describes a new phase of our post-war planning likely to develop upon return of a million or more airplane pilots and mechanics who, by virtue of their expert training, are unfitted for other pursuits.

Quoting from Mr. H. G. Maas' article, "it does not require an aviation zealot to read in the signs of the times, portents of coming changes in the world's transportation." The writer predicts a vastly improved commercial use of the plane. How far the government will go in popularizing the industry is of course problematical but it is safe to say our boys will be taken care of along lines for which they are best fitted. Hotels are going to be built near international airports and plane landings will be closer in which will save time transporting passengers from passenger stations to airports. Building designs will provide autogyro landings on office buildings. Produce and freight deliveries will see some notable changes with airports and warehouses at convenient points.

You will find Mr. Maas' article intriguing, informative, progressive.

"Valencia Gardens," San Francisco's latest housing project to be completed, will be described by Sally Carrighar whose previous housing articles in *Architect and Engineer* have produced much favorable comment. One of the interesting points brought out by Miss Carrighar in her Valencia article is the fact that the ground site is almost exactly the same size as the site of the University girls' dormitory (*Architect and Engineer* for December) which latter building contains approximately 80 rooms while the total number of rooms at Valencia is 937.

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RUNNING FIRE—

by W. C. AMBROSE, pinch-hitting for MARK DANIELS

Mark is absent, so the fire dies down to a quiet smoke.

• *TIME PASSES ON*

The time comes in a man's life when, as he walks along Montgomery Street, in San Francisco, even a slight ripple of interest in the glance from one of the opposite sex causes him to fumble his tie to discover what is wrong . . . or to wonder what sort of smear adorns his cheek—at the same time mentally noting: "It was not always thus!"

The age of discretion comes to most men with the silver in their hair, but for an architect that age hardly fits the cynic's definition of "too old to have a good time, and too young to die." For when the architect has arrived at the age (I mean mental age) when quality is a more important factor in a French dinner than quantity, he has also passed the time when he hailed each new stunt design in the architectural journals as a masterpiece of modernism, and a "significant contribution in dynamic design" whatever that may mean. He even yawns a little when he sees the word "significant" applied to anything and wonders "significant of what?" Did any of the caption boys ever tell what the design is significant of? Of course we may have our own ideas.

• *REMINISCENT*

The questioning smile of the older architect is not per se (one must use a little Latin, even if incorrectly) the proof of one disgruntled with the times. He remembers his enthusiastic acclaim of the "bath" motive of the Pennsylvania station, the merit of which was that it "accused" a large inclosed space—"form follows function!" And the successive triumphs of the "Merry Widow cornice," followed by the absolute proof that roof overhangs are sinful and ugly, and their resurrection when the architect began to fondle the cantilever and call her "beautiful!"

His nostalgic eye sees again the soaring grace and lace of the gothic-detailed skyscraper—"only vertical lines can express the steel frame" and "following nature's formula in building with the spreading base, the clean shaft of the tree, and its foliated cover." He has since learned that play of light and shade and complexity within a pattern are vulgar and over dressed, that no shadow should be less than five hundred feet long and that the appearance of a building from less than a mile away is a matter of indifference.

• *FOR THE QUIZ KIDS*

By the way, what does a palace on piles which have been cut off eight feet from the ground, with a horizontal slash of glass brick three feet in height and two hundred feet long at right angles to a vertical pile of more glass bricks stretched so high that their brick envelope has become a tower—what does that "accuse?" But why be academic, and who knows what "accuse" means, now-a-days? And who cares?

• *FUNCTIONAL ARCHITECTURE*

We were young once and thought that a Monterey colonial house was a pretty nice place in which to live, economical, with privacy, etc., etc. But that was before we found out the joys of bringing the outdoors indoors, and indoors outdoors and vice versa ad-infinitum. (We really think the Van Kannel people have something!)

And in those days we did not know the fun of finding in the magazines how Mr. Saarinen plants a pool skew-ways alongside his museum and wins a national competition with it, and then watching all the little Saarinens planting pools skew-ways alongside their buildings and calling them significant. Maybe they were. We even noticed that Mr. Saarinen Pygmalianized his idea and we saw how it emerged as a small lake alongside a church. We thought it strange until we noticed that the lake was between the Sunday school room and the church, and that the church was Baptist. Really functional, that was.

• *THE SHED ROOF*

Just now it is the shed roof. Yes, the same that the boys used to pile wood under and play ante-over around. Some few years ago we understand that certain architects were close to dueling because one claimed the other had filched a new motive that he had discovered—the shed roof. Last month Brazil held the spotlight in the magazines, and there on the strand was a shed roof to end all shed roofs. It's kind of too bad, too, for in the office we had one a-borning which we thought well of.

We architects do have fun!

NEW SOVIET POSTERS AND CARTOONS

Representing another of our allies, the De Young Museum is showing through the month a new group of Anti-Nazi posters which have only recently been sent to this country by the U.S.S.R. These original works, combining the talents of artist and poet working together, are larger than the ones which were previously displayed at the Park museum, and show a new vigor and optimism since the turning of the German tide last year. The De Young is extremely fortunate to be able to show, alongside with these posters, a series of war cartoons which have just arrived in this country from the Soviet Union and which are being shown here for the first time outside of Russia. Three artists working together who sign themselves Kukrinisky are responsible for many of these extremely forceful cartoons; others are done by individual artists. The entire exhibition of posters and cartoons is being lent by the American-Russian Institute of San Francisco.

THE DILIGENT DAUGHTER AND THE GOOD-FOR-NOTHING SON

Painting by Bonito

This truly representative of the neglected phase of Italian art, was acquired through the M. H. deYoung Endowment Fund. The picture is being admired by art lovers at the deYoung Museum, Golden Gate Park, San Francisco.

PRUDISH BOSTONIANS BAN NUDIST SHOW NOW AT MUSEUM OF ART

For all the efforts of critics during this century, some public spirited citizens have never been able to shake off the notion that art is somehow mixed with morals. And, if they are in the minority, there are nevertheless still critics who connect art with the good, the true, and the beautiful. But these critics, who hold the persistent classical ideal that both art and artist must represent the noble life, object to certain artistic productions for philosophical reasons. The official censor more often employs his blue pencil for psychological reasons, because he detects a forbidden appeal to human nature. To exercise his duties, he must be capable of experiencing the impulses of an elder; and yet control these impulses, and ultimately those of others, for the protection of the Susannas of his time. He must be abundantly equipped with the psychological apparatus of a normal citizen, but empowered with an equal, if not greater, "social sense." Whenever he performs his duty he puts himself, and not merely the object of his criticism, to the test.

Once in a while exhibitions of art address themselves to these psychological critics as well as to critics of a more philosophical nature. On these occasions judgments are of such a debatable character that the exhibition is passed, with explicit objections, to public view. They therefore provide admirable opportunities for the public itself to judge not merely the questioned aspects of the exhibition, but also the value and caliber of the official censors.

* * *

This month such an opportunity presents itself in the form of a show called Contemporary American Figure Painters which is on view at the San Francisco Museum of Art. San Franciscans can adopt an especially detached point of view because the censors so tested live on the other side of the continent. Many of the pictures in the exhibition were published in a recent issue of Life magazine, in what is called "full-color." The issue was banned in Boston, although the exhibition itself has already been circulated through many American cities. Presumably the Boston censors objected to the fact that some of the contemporary American artists painted nude figures, but it is conceivable that they objected to the **ways** in which the nudes were painted. In fact, it would be more according to precedent in these matters if the second objection were the one held here. For the judges of this sort of thing usually subscribe to some part of classical theory, and reserve certain classical types of representation in the nude for acceptance. This attitude may be held because the classical types do not stimulate objectionable reactions in the official witnesses, that they do not possess what R. H. Wilenski calls elements of "caressability"; or because they belong to the categories established by classical theory and consequently carry with them associations of dignity and respectability. In either case the censorship would obtain on the grounds cited by Paul Whiteman in his description of jazz, that "it isn't what is played, but the way it is played."

If one were to assess the abilities and opinions of the Boston censors, the first step might take the form of a close scrutiny of the features of the exhibition. An exposure of the capacities of a given censorship occurs, of course, in terms of what is exposed in the censored object. Account should be taken of the questioned disclosures, and of the

AN EVER CHANGING WORLD

THE COVE

Painting by William H. Givler now on exhibition at the San Francisco Museum of Art.

Despite war conditions the galleries are well patronized, particularly evenings when both galleries and library are open. Men in the armed service are always welcome.

attitudes in which these appear. At this point the normal responses, if any, could be compared with what is codified as undesirable in some moral system. This method should supply the necessary data for a considered judgment of the censors' opinion.

An examination of the current show will reveal at least one representation of a completely unclothed figure, as well as a number which, in manner of dress, resemble photographs of Congo natives that were taken by the Denis-Roosevelt Expedition. The response to these representations is perhaps a more individual matter, although the word "normal" is a collective qualification. The earnest investigator might be advised to organize representative groups of the public which would confront the pictures directly, and to collate the individual responses within the groups. In the same manner it would be possible to formulate a generally acceptable moral credo.

It is interesting to note, parenthetically, that official censors usually attend to the most obvious kinds of representation, and ignore subtler forms. Few shows of Surrealist art, which avowedly transgresses conventional moral taboos, have been attacked for this reason. Can it be that the insinuations of the Surrealists do not penetrate the sensibilities of public censors? Or is one to assume that Surrealist imagery is not considered a moral heresy by official guardians of that estate?

In any case the present show does not offer evidence of a Surrealist order. The nudes are customary. They were painted by American artists of well established reputation. By no means all of them contributed pictures of nudes, but a list of a few of the artists whose work is included in the exhibition should give a hint of the aesthetic, if not the moral, character of the presentation. These are: Henry Varnum Poor, Guy Pene du Bois, Waldo Pierce, James Chapin, Raphael Soyer, and Leon Kroll.

AN IMAGE OF FREEDOM—A COLLECTION OF THE NATION'S WINNING PHOTOGRAPHS

A short time ago the Museum of Modern Art in New York held a contest in which photographers were asked to submit work which collectively would compose a picture of America, an image of freedom. The winning photographs, by the nation's leading photographers, are now on view at the San Francisco Museum of Art under the title Image of Freedom. The idea behind the show is expressed in various ways. Some chose to represent freedom by portraying in landscape the vast natural resources of the country. Others felt that the key to freedom is to be found in the betterment of living conditions by a beneficent government. To others, freedom of expression seemed most important: freedom to protest, to live the way one wants to, to enjoy leisure hours without regimentation. As David McAlpin, Chairman of the Committee on Photography, writes, "The picture represents what a group of citizens feel to be worth defending and preserving for the future."

AMERICAN ARTISTS SHOW "SERIGRAPHS" AT THE DE YOUNG MUSEUM

"Serigraph," the name now given to prints made through the silk screen process, may be seen at the De Young during this month. The exhibition has been organized by the Contemporary Arts Center of New York and presents some excellent examples of the works of American artists in that special field. It is only during the past few years that the silk screen print has been widely used commercially in this country; through exhibits such as this the possibilities of this method as a color print medium in the fine arts are made apparent.

(Turn to Next Page)

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SPLENDID DISPLAY OF FRENCH 18TH CENTURY ART

Exquisite objects of French 18th century art are on display at the De Young. They are from the collection of Edward Anthony Montgomery, San Franciscan, who has spent the greater part of his life in Paris and the south of France and who managed to bring with him from occupied France these few fine items from the many he had acquired. Included are two drawings by Lavreince, two terra cotta models for a bronze fountain and many beautiful pieces of Louis XV and Louis XVI vermeille and silver. Among this latter group is a dessert set still in its velvet-lined leather box which came from the court of Maria Theresa and an entire Regence set, silver with gold plate.

CHINATOWN ARTISTS' CLUB HOLDS EXHIBITION AT DE YOUNGS

Following their first successful exhibition held at the De Young last year, the members of the Chinatown Artists' Club are now offering their second annual exhibition of oils and watercolors. Membership to this group entails three previous showings in recognized exhibitions, and the club boasts Dong Kingman as President, Chee Chin S. Cheung Lee, Vice President; Hu Wai Kee and Sui Chan, Secretaries, and David P. Chun, Treasurer.

Works by all officers is being shown, along with those of Peter Lowe, Nellie Tom, Jade Fon and William Lee. The club has fittingly chosen this month of the Chinese New Year to hold its annual show.

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FRANKENSTEIN, MacAGY DEBATE AT S. F. MUSEUM OF ART FEBRUARY 28

Any number of special pressures affect the form of our thought, and sometimes confine it to our detriment. There is the succession of events, for example, which seem to have separated the arts from the mainstream of community life. There is the concept "the arts" which would group music, literature, and the visual arts on a common basis. To what extent music can be legitimately related to the visual arts will be the subject of a discussion between Alfred Frankenstein, music and art critic of the San Francisco Chronicle, and Douglas MacAgy, Curator of the San Francisco Museum of Art, at the Museum on Sunday afternoon, February 28, at 3:00 o'clock.

WORK OF VIENNESE ARTIST REMAINS ON VIEW AT DE YOUNG

That excellent exhibition of works by the Viennese artist, Victor Tischler, is still on view at the de Young Museum, Golden Gate Park. Mr. Tischler, recently here from France and now living in the southern part of the state, has brought many and varied contributions to his first American showing.

85 WAYS TO MAKE A BETTER HOME

...whether you plan to build, remodel or buy

A BOOKFUL OF NEW, WORKABLE IDEAS FOR POST-WAR HOMES

THE end of this war may introduce one of the biggest home-building booms the nation has ever known.

Architects must be ready—a year or more ahead of time. That's why we are bringing out this *New Idea* book now. It features 85 *practical* ways to make homes better with steel.

This is *not* a visionary book, featuring imaginary uses of steel, but one which gives useable information about new steel products which will be obtainable after the war. Many of these products will bring lower building costs because they take advantage of mass production methods.

If we are to develop low-cost, high-quality housing, it will be necessary for architects, builders and suppliers to co-operate in every way possible. In this new book, we have urged prospective home owners to use the services of reliable architects and builders for best building results. Send the coupon today and we'll put you on the list for a copy.

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Today's acute housing problems are making people more than ever "home conscious" and millions are dreaming of the day when they will live in a home of their own—a home with electrical conveniences lacking in present living quarters.

When the war is over and they start cashing in war bonds and buying homes, they are going to be far more critical of those architectural home plans than ever before.

Architects themselves tell us that whatever the home of the future looks like, its electrical service will be one of the prime items of consideration, because the home owners demand it. Experience has proved that nothing so thoroughly irritates a client as to move into a new home and find insufficient electrical outlets, or badly placed outlets and switches, or poor lighting.

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A huge $600,000,000 public works program to offset post-war unemployment in California is proposed by Senator Chris Jesperson of Atascadero.

The Senator urges adequate planning now to absorb the shock of unemployment without draining the state's general fund and avoiding a return to boondoggling of the past decade. He said specific bills were being prepared to cover construction of new highways, airports and schools.

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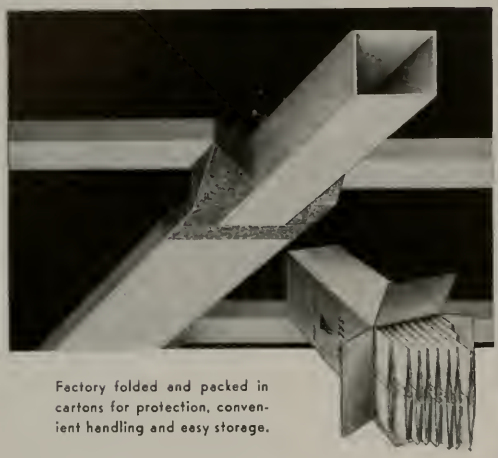

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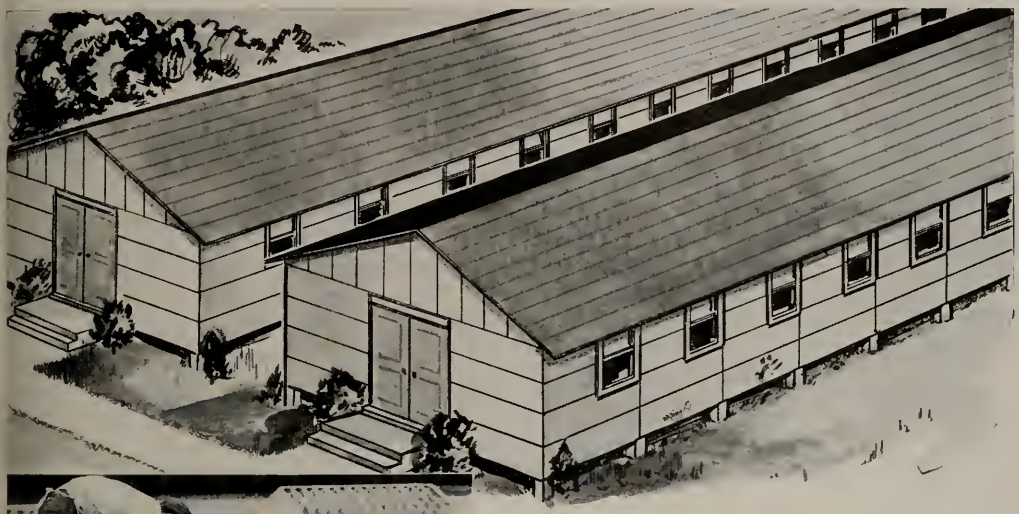

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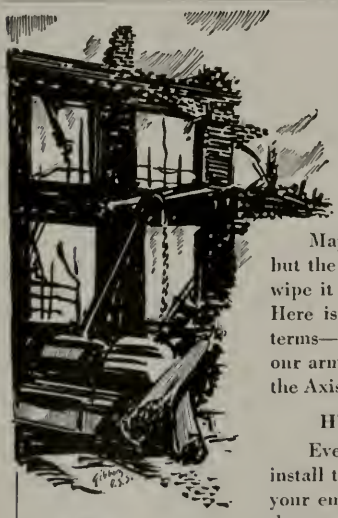

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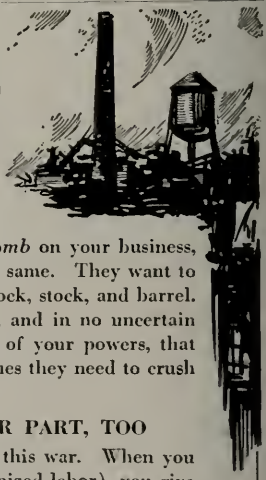

Maybe they won't actually come and drop a *bomb* on your business, but the Axis war lords have their eye on it, just the same. They want to wipe it out as a competitive force—or take it over lock, stock, and barrel. Here is a threat that you can reply to *now*, today, and in no uncertain terms—by buying Defense Bonds to the very limit of your powers, that our armed forces may have the guns, tanks, and planes they need to crush the Axis *once and for all.*

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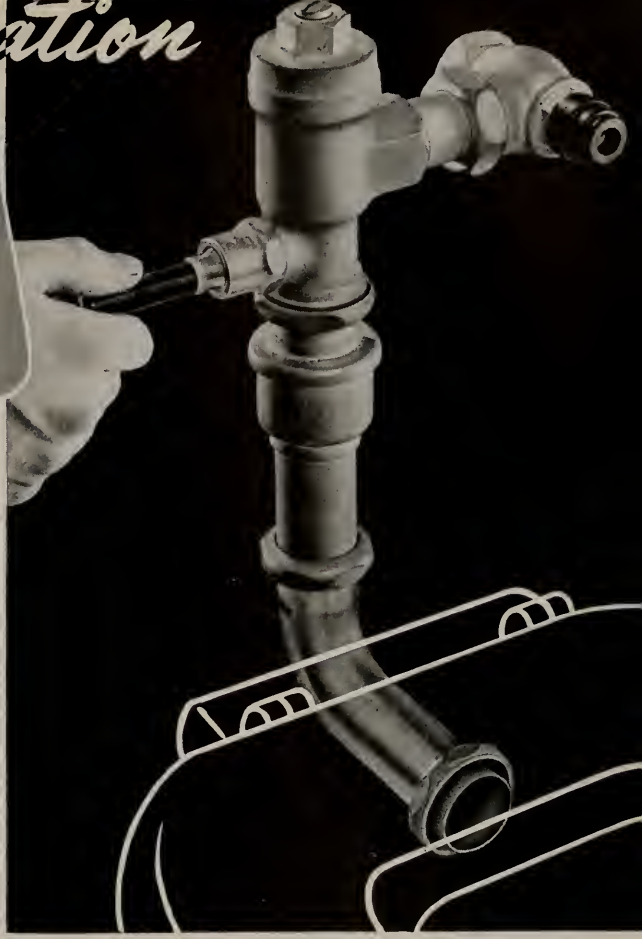

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"V" Model retains Watrous proved design and excellence of workmanship

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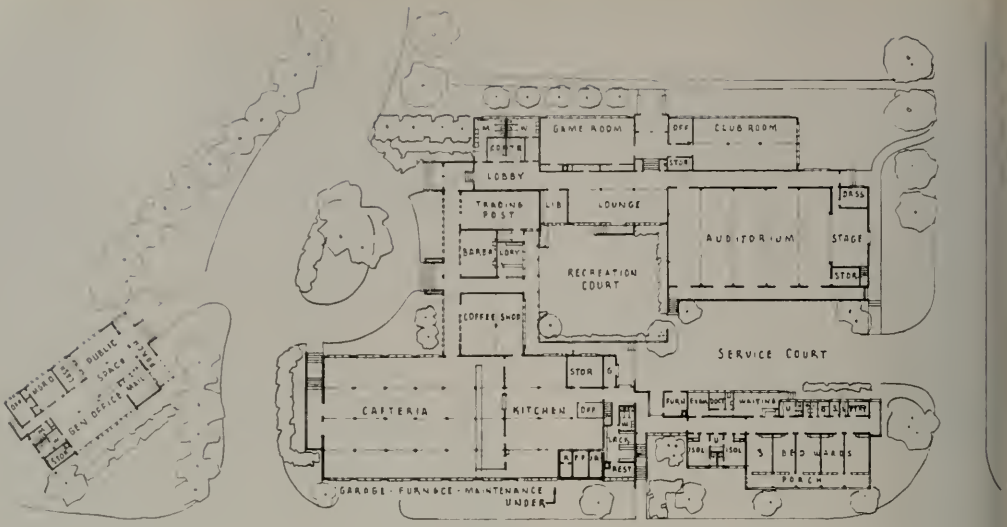
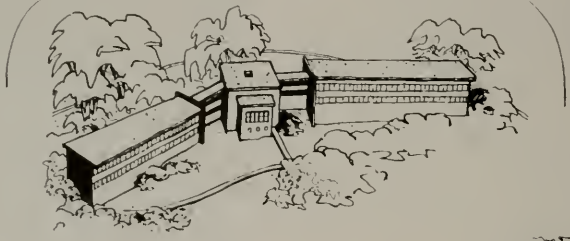
QUICK REFERENCE CHART

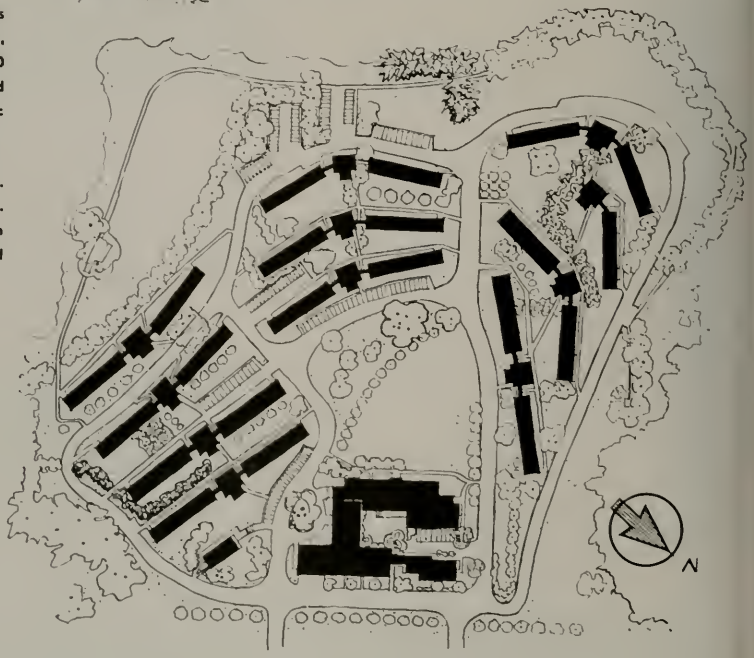
Showing Watrous 'V' Flush Valve combinations which correspond to various Item Nos. in War Dept. Spec. PE-623

War Dept. Spec. No.	Watrous Combination to Use	War Dept. Spec. No.	Watrous Combination to Use
Item P-1	WD-933-WVB	Item P-6A	WD-932-VB
Item P-2	WD-949	Item P-30	WD-939-VB
Item P-3	WD-949	Item P-31	WD-939-VB
Item P-4	WD-949-VBF	Item P-32	WD-941
Item P-6	WD-932-VB		

Watrous Flush Valves







Plans, War Dormitories at Sousalito, California, accommodating 1200 workers and sponsored by the Federal Public Housing Authority.

Designed by the F.P.H.A. Regional Architects . . . in cooperation with Blanchard, Maher & Ward Architects.

VALLEJO: Grouping of Dormitories conforms to convex hillside.

DORMITORIES IN TRANSITION

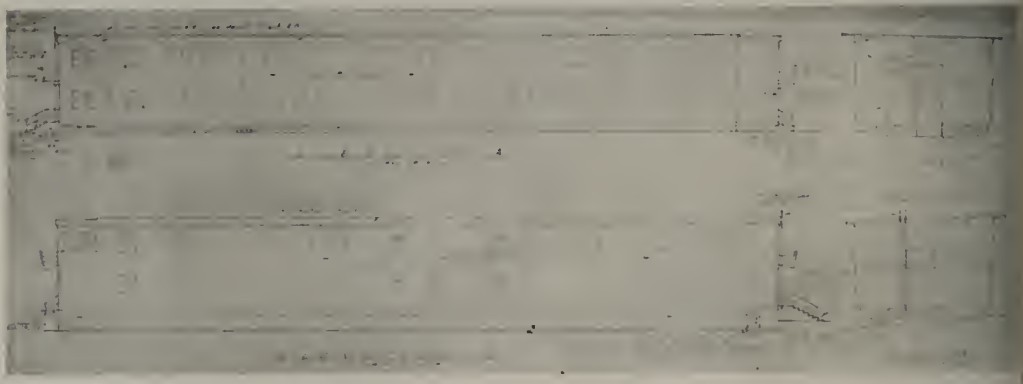
by SALLY CARRIGHAR (photos by the author)

The first single men's dormitories built by a Federal agency were close to the minimum in housing. Their light construction (they were almost completely demountable) and their thinness of design could be explained as practical necessities. But the dormitories also expressed the general impression about their tenants: that a worker without a family is probably a sub-standard human being, as ready as the buildings to vanish overnight.

The change in that attitude is one of the war's surprising by-products. For the first time anywhere, unattached adults have been recognized as entitled to suitable, adequate housing of their own. A roof is no longer considered enough. That a single worker, as well as a family, should have a **home** is now the official policy. The NHA has come to see him as one who may even have a hobby, read books, entertain visitors, like to play games with his friends—one with a right to privacy, fire protection, regular provision for his meals, nursing when he is sick—a normal person with all the normal needs and some extra ones due to his single status.

To develop answers to the housing needs of these people has required a unique architectural experiment. It has been all the more interesting because it was carried on at this time. Almost all types of war housing have been architectural laboratories, in which assembly-line construction, so long advocated,

VALLEJO: Administration Building (left) and Restaurant and Cafeteria (right).



VALLEJO: Elevations of Dormitory Buildings.

VALLEJO: Latest five of the 38 Dormitory Buildings.

VALLEJO: "Duration Dormitory," almost wholly prefabricated.

VALLEJO: A lounge in each dormitory, no community recreation building yet.

VALLEJO

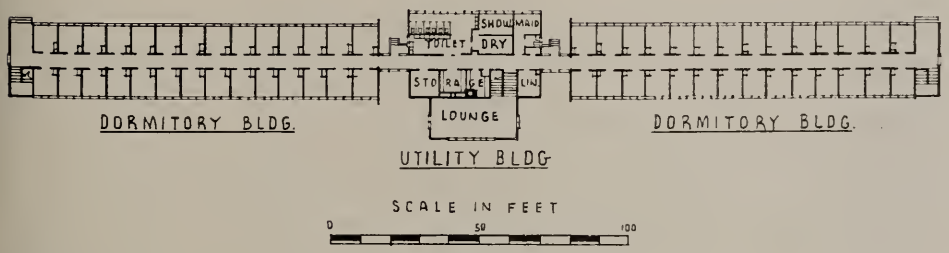
Upper picture—
Interior of restaurant, cafeteria side.

Center—
Interior administration building.

Lower—
Plumbing, typical lavatory.

SAUSALITO: Community Buildings grouped at apex of triangular plot.

PLAN DIAGRAM SHOWING HOW BUILDING GROUPS CONFORM TO GRADES



SAUSALITO: Section and Plans of Utility and Dormitory Buildings.

SAUSALITO: "Morale Activities Building."

has had its proving. But the experiments may have been least inhibited in the case of dormitories because nearly everything about them is so new.

In 1939, the construction of housing for single shipyard workers was assigned to the Farm Security Administration. The agricultural agency recently has been relieved of this job and the dormitories have been turned over to the Federal Public Housing Authority. A comparison between the FSA dormitories at Vallejo and the FPHA dormitories at Sausalito shows a transition that might have taken years to achieve in peacetime. Actually the transition is not as abrupt as it seems because the FHPA inherited much experience from the FSA, and the FSA carried on the early unrewarded struggles for some changes in policy that came only with the regime of the FPHA.

LIBRARY: "Morale Activities Building"
(Infirmary across court).

The simplest kind of box design was designated for the first FSA dormitories—the plan in which numerous little rooms are strung along the sides of a narrow hall. The buildings are two stories high, with stairways and entrances at the ends and lavatories in the center. One room is reserved as a lounge, another for tenants' storage. Those were the only concessions to livability; even an office for the manager was not considered necessary.

PREFABRICATION GETS A REAL TEST

It was the job of the district architects of the FSA to adapt such plans to local sites and to cope with the ebb of materials. On the face of it the assignment didn't seem very exciting, yet it was to Vernon De Mars, District Architect of the dormitories for the Mare Island workers at Vallejo. With speed and economy the chief requirements, Mr. De Mars saw in this project a chance to give some radical

SAUSALITO: Cafe Wing, Community Building.

building methods like prefabrication a significant test.

The type of construction chosen was the stressed-skin type developed by the Government's Forest Products Laboratory. This method, in which coverings serve also as supporting elements, never had been used in two-story buildings or on so extensive a job. The structural unit here was a double plywood panel, 4 x 8 ft., its two sheets glued to $\frac{3}{4}$ x $2\frac{5}{8}$ in. studding. The unusual length and height of the dormitories required extra strength and precision in the panels which, slight as they seem, actually support the second floor loads. To meet these demands new refinements were developed in the manufacture of the panels.

The first Vallejo dormitories were made almost completely of these panels. Workmen fitted them together, now to form floors, now partitions, now ceilings and exterior walls. The method of joining the panels was clever. In each panel, the inner framework between the plywood sheets was set back $1\frac{1}{2}$ in. from the edge of the sheets. When two panels were to be joined, the edges were brought together, fitting over a wooden spline which filled the

GAME ROOM

GYMNASIUM

SAUSALITO: Dormitory of permanent construction.
(Nate fire-wall separating wing from utilities section.)

space left inside by the framework set-backs. Screws or double-headed scaffold nails (for demountability) were inserted near the edge of the plywood sheets and into the spline.

Windows were contained in single panels which were precut during fabrication. After the panels were erected, the windows—of the frameless projecting type, delivered with hardware complete—were screwed in place. Door frames and ventilating grills were installed in the panels during fabrication, and the frames were adjusted to prefit doors.

In the first dormitories each room had its individual gas heater; in later buildings warm air from a central oil-burning furnace was carried to the rooms through overhead ducts in the ceilings of the corridors. Prefabrication did not extend to the electrical and plumbing installations, which were made during construction, nor to the application of finishes. The

SAUSALITO: A lounge in each dormitory beside the community recreation facilities.

PLUMBING: Typical lavatory.

finish on the exterior panels, incidentally, was a specially compounded stucco-texture paint, important in that it had to protect the plywood surface and also to have elasticity in order not to check.

To soothe excited real estate people it had been specified in the beginning that it must be possible to remove the buildings by pulling out a few nails, and even that the land must not be defaced. Therefore any excavations were prohibited. The dormitories rest on concrete piers 18 in. square, with skirtings of vertical redwood planks of different heights determined by the slope. The skirtings are raised 6 in. to allow for the run-off. Girder-underpinnings support the plywood panel floors.

STRESSED-SKIN CONSTRUCTION LOOKS GOOD

The signs we take for granted that a structure is built to last are lacking in the dormitories, naturally, and one misses them. Yet this stressed-skin construction has a fresh, incisive quality, especially the exterior, that is as satisfying as a sharp clean sketch on the drafting board. In fact the buildings have a two-dimensional feeling, a little unreal. Their colors are one of the best things about them. Grading from white to a warm earth-tone, with bright trim, they give sparkle to a barren landscape.

On the inside the buildings have less appeal. They are cramped, and the lacquered plywood drinks up what little light there is in the close-walled rooms. The contribution to happy living may not have been great in the Vallejo dormitories, but the contribution to architectural theory has been valuable. For here you have a vision made real: an almost wholly prefabricated building. You may have it in two days' time, as the FSA did with one of the later dormitories. This is highly efficient construction, the result of the utmost care in planning. The FSA was fortunate in securing contractors, Fred J. Early, Jr., and Oliver M. Rousseau, who were experienced in large scale construction, and one (Rousseau) who had been prefabricating row dwellings and was accustomed to carrying out one operation at a time on the 24 houses that line a city block.

Summing up his experience on the Vallejo dormitories, Mr. De Mars says,

"It is yet to be proved whether prefabrication saves money. Unquestionably it saves time." The crisis in materials prevented the results at Vallejo from proving much conclusively, but some useful facts developed.

The earliest buildings were noisy. All of a piece when screwed together, "they reverberated like a big violin case," says Mr. De Mars. Even after panel floors were abandoned, the need for sound-proofing in the walls remained. Heat insulation also appears to be advisable. Insulating materials could, of course, easily be incorporated in the panels.

Dimensions of the panels might be reconsidered in future stressed-skin construction. Where all surfaces are multiples of the panels and the panel-sizes therefore determine the building's proportions, the most sensitive attention should be given to this detail. The 4 x 8 ft. size may be ideal for those who make the mathematical calculations, but aesthetically it is not pleasing. The simpler a room the more important to have its proportions soothing to the eye and the spirit. Perhaps the prefabrication experts should go and measure some beautiful old buildings—almost any of the original adobes would do—and then divide the areas they find into workable panel sizes. It is almost certain they would not turn out to be 4 x 8.

SAUSALITO PROFITS BY VALLEJO'S MISTAKES

But the Vallejo dormitories, and some like them in other places, were put up so quickly and with so little precedent that a few mistakes were inevitable. The dormitories just completed at Sausalito by the Federal Public Housing Authority and Blanchard, Maher & Ward, architects, show three ways in which policies have been altered: 1) the basic design is better, 2) a more permanent type of construction has been adopted, 3) the program for each dormitory project has been much enlarged. The last change, especially, must be somewhat based on experience gained by the FSA in operating the original dormitories.

Although strips of rooms still border hallways, the effect is not so depressing in the FPHA dormitories because the wings are shorter and the corridors have been lightened with cream colored paint. One FSA dormitory accommodates 78 persons; one wing in the Sausalito dormitories of the FPHA only 57.

In the new structures a square, central utility building serves two dormitory wings, being connected with them by covered bridges. The three sections of one of these units need not be on the same plane nor even at the same elevation; the contour of the site determines the angles at which the sections are joined. Although this flexible arrangement seems an improvement over the previous type, Langdon W. Post, Arthur B. Gallion and other regional executives of the FPHA favor the self-contained unit, but a much smaller unit than those at Vallejo, a one-story unit to accommodate possibly only 35 persons. These would be more adaptable to the operation of projects housing both men and women in which the numbers of the two groups fluctuate.

Even in the case of the FSA dormitories, complete demountability had been abandoned for a policy of "building for the duration" and using elements that would provide good salvage. By contrast the FPHA is putting up dormitories which are for the duration in their present condition, but are heavy enough structurally so that they could be made permanent later, and at little expense. For instance, interior walls are sheet rock. But the exterior walls are of redwood siding and the floors in the first stories are concrete. Roofs are asphalt and gravel. The buildings in some future FPHA dormitories will have exterior walls of mineral-treated gypsum board. This will be a temporary surface, but one that will make a good backing for redwood siding if it should sometime be installed.

More permanent, too, and of better quality, now that cost is no longer paramount, are details like doors, windows and plumbing in the FPHA dormitories. Shower rooms in the FSA buildings remind one of the showers in a bath house at the beach, but those at Sausalito have tile floors, and there are large, slat-floored dressing rooms, separated from the showers by a chemical pool to check the spread of athlete's foot.

Very careful attention has been given to the factor of fire protection in order to avoid tragedies like those in the Vancouver and Bremerton dormitories. Experience at Vallejo also has shown the need—has shown that the war workers are inclined to come home tired and often a little dazed and then to start smoking in bed. Already several small fires have occurred at Sausalito since the dormitories were opened in November.

SAUSALITO OFFERS COMMUNITY FACILITIES

Each wing has three exits for its 54 occupants, one at the end, one at the bridge to the utility building, and one in the center. A conspicuous provision for safety is the redwood fire-wall at the bridge end of each wing, separating it from the area where the heating apparatus is housed. The wall extends 2 ft. 6 in. in each direction beyond the wing itself. An unavoidable hazard has been the use of plywood ducts to carry the warm air of the heating system. A more fire-resistant non-metal substitute, gypsum board, is now used and thermostats have been installed which stop the fans and close metal dampers, thus shutting off the warm air from the ducts when a dangerous temperature is reached. Double-hung or horizontal sliding windows will be favored as being easier to jump out of than the awning type.

In each of the new dormitories there is a spacious lounge—14 x 28 ft.—with windows on three sides. It is half way between the first and second floors in the central building; the stairway rises in one corner of it. The furniture has style. It is leather and craft-worked wood, strong, masculine, comfortable.

The maids' linen rooms are in the utility building, also a room for tenants' storage, a laundry tub for tenants' use, and a warm drying room where they can hang their clothes when they have been working in the rain.

These details and others show much more consideration for the tenants' comfort than was evident in the early dormitories, but the most revolutionary policy is the inclusion now of extensive community buildings in every dormitory project.

The Farm Security Administration fought for and finally got permission to build an administration and maintenance building and a cafeteria in each project. They have worked up plans for a recreation building, which is advocated by the Navy, but for which priorities have not yet been forthcoming. The FPHA,

however, has succeeded in getting community buildings recognized as an integral part of the dormitory plan. These buildings, finished and operating at Sausalito, include a large lounge, a gymnasium 48 x 98 ft., a game room fully equipped for pool, billiards, ping-pong, etc., a chapel, a library, cafe and cafeteria, and a 17-bed infirmary. The infirmary connects with the kitchens to facilitate tray service and includes a veranda onto which beds may be wheeled. The medical care, outgrowth of the FSA health program for migrant camps, is charged for in the rent.

All these facilities seem excellently planned and operated at Sausalito. Together they constitute the "home element" which single people seldom have been able to provide for themselves in any previous type of housing. Already the value of the community facilities have proved themselves, for there has been none of the "trouble" at Sausalito that has occurred at other dormitories where men of miscellaneous race, temperament and background live together.

But what is most unique at Sausalito is not the bare fact of such new facilities being provided—it is the spirit in which the whole thing is being done. There is a sensitive humanness, a sort of courtesy in planning, everywhere evident. It is found in such obvious things as the chemical shower pool, the inviting quality of recreation rooms, and the early provision for planting, so that hedges, shrubbery and new trees had a good start before the project was occupied. It is found in the very adequate service, the staff including maids, a janitor for every dormitory, extra cleaning men, gardeners, watchmen and other maintenance people who keep everything well cared for, well scrubbed, aired and trimmed.

It is possible to go on and read the same considerate attitude in the architecture too, for not only is good taste much in evidence but there is harmony of line and mass in individual buildings and in the plot plan that makes the project subtlely comforting. It has exactly the quality that is wrapped up in the word **home.**

SLEEPING ROOMS MUCH TOO SMALL

One exception must be noted because it is important. The sleeping rooms are distressingly small—8 x 9.6 ft.—and whatever Washington edicts, whatever statistics may be waved to explain the dimensions, such rooms are psychologically stifling. Each has three windows, but they are so high that they give no sense of space unless one is standing. Subtract a closet, a chest of drawers, a chair and a bed from an area 8 x 9.6 ft. and you haven't space for even two people to sit and talk (anyway there aren't two chairs); you haven't even room for one to relax and compose himself. As proof that the men want to be able to enjoy their own rooms as well as the community facilities, there is the fact that some have tried to improvise curtains.

In the future may not the FPHA go further in making permanent projects luxurious? The cost would be liquidated just as fast as if twice as much money were spent and rents twice as high were charged. And why should a worker earning, say, $90 a week spend only $5.60 for his living quarters including medical service?

Is it not possible that the Federal Public Housing Authority has thought so long in terms of people with sub-standard incomes that they find it hard to be really generous with the creature comforts? However, they are moving in that direction. The fact is that the Sausalito dormitories are **pleasant.** Perhaps the FPHA will sometime come to think of a room-and-private-bath as a not impossible luxury for the man or woman able and eager to pay for it.

If the FPHA continues to go along with as much open-mindedness and imagination as it has shown so far, dormitories for groups of single men and women may become one of the most important kinds of housing it ever has provided. For these people are an architecturally forgotten class. Always before this time unattached adults have had to live in a makeshift way, in accommodations primarily planned for families or else in such transient quarters as hotels. As a result they constantly, if unconsciously, combat the implication that they are outsiders, odd ones.

What might be done for their morale if they had companionship with each other, in a type of housing planned specifically for them, is a fascinating sociological prospect.

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Key Note
of a letter to the editor by

PAUL ROBINSON HUNTER, A.I.A.
Los Angeles

☆

Vividly expressing the sentiment of hundreds of architects now engaged in war work and who will be called upon to rebuild America when this war has been won

And that shall be the mission of this magazine for the duration, aided by support of its loyal advertisers

BUY MORE WAR STAMPS FOR VICTORY

RESISTANCE OF CONCRETE STRUCTURES TO AIR ATTACK

By JAS B. WELLS, C.E.

ONE of the many problems presented by modern aerial warfare is the effect of bombing on reinforced concrete structures and methods of design to best resist such attack. Most of the material which has been published on this subject is the result of observations made in England, although some tests have been made by the U. S. War Department. The results of these tests and observations are available in bulletin form. It is also quite possible that much confidential information has been accumulated both by the British and the American governments which is not available to the public at the present time. The writer will attempt to summarize the most important points which have been presented in various publications which have come to his notice during the past few months.

In general, it might be stated that the two principal forces which a structure is called on to resist when subjected to air attack are, first, the force of the atmospheric blast and suction set up by the explosion and, second, the force or impact of flying fragments of material from the bomb case and other fragments which may be set in motion by the explosion. Both of these are present when the structure suffers a direct hit or a near hit. Another effect of near hits is the ground vibration which may seriously disturb foundations.

When an explosion occurs a tremendous amount of energy is liberated in an extremely short period of time. This energy largely is absorbed by air displacement, by actual movement of material or by setting up stresses in objects which stand in the path of this energy wave.

Quoting from Wartime Building Bulletin No. 17, Department of Scientific and Industrial Research, London, "The extent to which the air movements are restricted and the pressure wave reflected by the masses of material is most important. For example, in the case of a skeleton framework, the degree of restriction is small and there is evidence to show that it would usually suffer little damage as the result of an explosion in or near it. Under these conditions, however, the effects of the explosion would be felt to some extent over a wide area, since they would not be restricted or localized.

"On the other hand, when an explosion occurs within a building there is considerable resistance to the movement of the expanding

JAMES B. WELLS *is Professor of Civil Engineering at Stanford University. Rated as one of the foremost structural engineers in the country, Professor Wells was recently honored by election to the presidency of the Structural Engineers Association of Northern California. His discussion of reinforced concrete structures and their resistance to air attack is particularly timely. Since original publication of the article in Building Standards Monthly in October new material has been reviewed by the author and in all cases where reinforced concrete is discussed, the importance of continuity is emphasized. To quote Professor Wells: "It is becoming increasingly apparent that structures of any material designed or strengthened to resist the forces generated by bomb explosions should incorporate the principles of continuity to the greatest extent possible."*

PROFESSOR JAMES B. WELLS

Photo Kee Coleman

gases and to the air blast outside the zone of expansion. Reflections from floors and roofs will increase this effect. The floor above the explosion is subjected to an intense pressure from beneath, which usually results in a violent upward movement of the area of floor affected. Similarly, the floor immediately below the explosion is subjected to a severe downward pressure, the effects of which will vary according to the strength of the floor and other local factors.

"The amount and type of destruction depends on the resilience or ability to absorb energy of the various parts of the structure. In considering the distribution of damage the question of the attachment of the floors and roof slabs to the framework is of first importance, since experience has shown that it is the pressure upon the floors and roof that is largely responsible for the damage to the framework.

"It may seem at first sight that the attachment should be weak, so that the energy of an explosion may be absorbed by bodily movement of the floor slabs above, thereby leaving the frame undamaged. It has been found, however, that where the attachment of the slabs to the beam is weak, they have become detached from the beam system and collapsed to the floor below. Such collapse may become cumulative down the building.

"It will be realized that, in the case of a reinforced concrete multi-storied building, the survival of the framework at the expense of the destruction of floors, wall panels, and contents of the building is of very doubtful value, and in order to satisfy the standards of performance given above it is considered essential that the area of floor destroyed shall be a minimum.

MONOLITHIC CONCRETE CONSTRUCTION

"It appears that a monolithic reinforced concrete structure of modern design which complies with the standard of the Code of Practice will ensure that the various members will normally possess the requisite degree of attachment, one to the other. The more extensive failures noted in those cases where both the design and construction of the work was of a much lower standard than would be tolerated today confirms this view. The general impression obtained as a result of the investigation was one of satisfaction at the remarkable manner in which the better designed and newer structures withstood direct hits from large bombs.

"In many cases of damage, members were found to be acting in a manner completely different from that for which they were designed, and by so doing they undoubtedly prevented the collapse that would otherwise have occurred. This was due in part to the monolithic nature of the work and to the fact that the reinforcement frequently was effective under the most unexpected conditions. This desirable state of affairs even extended to work destroyed, where very heavy sections were observed to be suspended by one or more bars, thus preventing the damage that would otherwise have resulted from their collapse as debris.

"In a few cases extensive collapse had taken place. Structures that were only partially framed suffered badly, as did those in which actual stability depended on a single support. The term 'actual' is used here to distinguish those cases where, for example, a column may theoretically be a vital member but where in practice, walling or other support might prevent collapse in the event of destruction of the column. There appears to be no doubt that some types of construction permitted prior to the last war are liable to extensive collapse from one or more serious explosions, particularly where the structure may be indifferently built and heavily loaded.

"Flat slab (or mushroom) construction seems to withstand damage from explosions remarkably well, with the exception that the external edge support frequently is weak. In normal beam and slab construction the external face of a building comprising columns and beams, with the addition frequently of substantial walling, often has an inherent strength of its own that enables it to suffer considerable damage without collapse. With flat slab construction, however, this is not generally the case, and consequently serious collapse of an outside bay may occur."

In a bulletin entitled "Report of Bomb Tests on Materials and Structures," published by the U. S. War Department, there is mentioned a

phenomenon which probably vitally affects the resistance of reinforced concrete to explosions. In describing the damage due to impact of sand-filled bombs on reinforced concrete structures, it is stated that the reinforcing bars generally were not broken and suggests that the concrete and steel act separately in resisting the penetration of bombs. The explanation given is that the shock wave travels at different velocities in the concrete and steel, which tends to destroy the bond between these two materials. From this it may be assumed that splices in bars which carry tensile stresses will be ineffective due to bond failure, and that welding, the liberal use of hooks or other mechanical devices should be used to minimize such failure.

Concerning the design of individual members, structures usually may be divided into three general elements—columns, beams, and slabs. The damage to columns usually is due to lateral loading or tensile failures which may occur when an explosion takes place inside the structure and tends to force a portion of the building upward.

VULNERABILITY OF EXTERIOR COLUMNS

Isolated columns appear to suffer damage from lateral pressure only when in the immediate neighborhood of the explosion. The damage to any construction in this immediate neighborhood of explosion is likely to be quite severe. Apparently the transmission of shock along reinforced concrete columns does not cause damage beyond the column connection to the floors immediately below and above the explosion. Columns which stand at some distance from the immediate shattering zone may be seriously damaged due to lateral pressure being transmitted to them through connected slabs and walls. External columns are particularly vulnerable to such damage as they may be affected through explosions occurring either inside or outside the building.

A solution which has been proposed to minimize this danger to exterior columns is to inset the columns from the external wall. By doing this the pressure on the wall panels will not be transmitted directly to the columns or, in other words, the columns are isolated and will not be called upon to resist such a large amount of lateral pressure. An argument against this type of construction is that such a procedure would vitally weaken the outside wall of the building. In general, for multi-story buildings, it seems to the writer that the best method would be to securely tie the wall panels to the columns on the theory that in case one column were destroyed, the wall and floor construction might possibly span over the area of damage.

For one-story buildings the column inset from the wall panels seems to have a very distinct advantage. There does not seem to be any serious disadvantage as these columns merely support the roof. When an explosion occurs inside the building, naturally there is a tendency for the floors above the area of explosion to rise. This produces a tensile stress in the columns and also shearing stresses between the beams and columns. In general, failure of the column occurs due to slipping of the longitudinal bars at the laps. This may occur at the base or top of the column or at both places, and if the column is close to the point of explosion, intermediate cracking may occur. It would appear from this fact and from the results of the bomb tests mentioned before, that it would be desirable to increase the lap of the bars, or weld the main column bars together in order to resist, as far as possible, this tendency toward tension failure.

It also has been recommended that the main column bars should be made as heavy as practicable with the idea that heavy bars might possibly carry considerable load without buckling, although the concrete might be shattered. Exterior columns should be tied to floor beams and spandrel beams securely in order that they may not be displaced due to internal or external explosions.

Quoting again from Building Bulletin No. 17* regarding beams and slabs, "It was frequently observed that beams received considerable damage without failing in their essential duty of supporting the loads transmitted to them from the slabs. In some cases this was true even when the central portion of a beam span was shattered. Even if the slab over is damaged it may remain effective as the requisite

* Other publications found particularly valuable in writing this article include: "Civil Protection," Samuely and Hamann (London); "Aerial Bombardment Protection," Wessman and Rose; "Report on Bomb Tests of Materials and Structures," United States Office of Civilian Defense, Washington, D. C.

compression member, and the tensile rods, though bared of concrete, may still take the tensile force. Alternatively, if the damage is such as to demolish a portion of the beam, the remainder may act by cantilever action and give sufficient support to prevent any but very local deformation.

"In the event of an interior column being destroyed, the collapse of the area of floor or roof directly over rarely takes place owing to the very considerable cantilevering action in the beams spanning on to the damaged column. In the design of beams this fact should be borne in mind and the arrangement of the reinforcement made accordingly.

"In upward bending, beams may possess much greater strength than is apparent at first sight. Provided the slab does not become detached from the beam its tensile value, together with that of any top reinforcement provided in the beam, is available to resist the tension in reverse bending. For these conditions, to an extent depending on the arrangement of the bottom reinforcement, continuity or reverse cantilever action also will operate. Without the introduction of any special measures such as welding, this reverse cantilever action can be made effective by carrying a proportion of the bottom bars beyond the support and into the adjoining span.

"In many beams that had been very seriously overloaded, either by upward or downward pressure, there was evidence of local shear damage near the supports. The concrete cover sometimes was entirely removed up to a distance from the supports about equal to the depth of the beam and the reinforcement exposed. It was also noted that the resistance to shear in reverse bending was more efficient in those cases where vertical stirrups were employed than where bent-up bars were used.

TYPES OF SLAB CONSTRUCTION

"It would be expected that the most satisfactory types of slab for resisting the effects of an explosion are those that can most readily adapt themselves without excessive deformation to conditions of support, or lack of support, different from those for which they were designed. On this basis solid slabs spanning in two directions appear best, and experience has tended to confirm this. It is desirable, therefore, that in the design of slabs, liberal distribution reinforcement should be provided and insofar as it may be practicable, a square mesh arrangement should be adopted. For normal slabs the spacing of the reinforcement preferably should be of the order of the slab thickness.

"If no top reinforcement is provided across the span, the resistance of slabs to upward bending is dependent largely on the tensile strength of the concrete. With regard to this it was noticed that construction joints arranged more or less centrally in a panel were a source of weakness. In a number of cases slabs appeared to have lifted by the opening of the central joint and then subsequently to have sagged "V" fashion. Collapse following this type of failure may be very destructive. It would therefore appear desirable either to provide suitable transverse top reinforcement at all such joints or to move these joints near to the support where the normal negative reinforcement is situated. In such cases the joints should be joggled or rebated.

"With regard to bottom slab reinforcement, the same remarks apply as were made about the reverse bending of beams, i.e., the bottom rods should be well anchored at the beam support. This is done most easily be carrying alternate bars through the beam into the next span and stopping the other short; alternatively, the bars may be bent up and carried over the support. With these arrangements only one-half of the bars will be anchored, but they will be effective up to the yield point stress for the condition in question.

"Slabs should be adequately tied to the beams. In general this will be done by the beam stirrups, provided they are anchored to the top beam steel (situated in the slab thickness). If ordinarily no such top steel would be required, light reinforcement should be provided for this purpose.

BEHAVIOR OF HOLLOW TILE FLOORS

"Hollow tile floors appear to have behaved quite well under the effects of explosions, contrary to what might have been expected. Possibly this may be because they are usually stiffer than the equivalent solid span (span for span) and are thus able effectively to cantilever sur-

prising distances after partial destruction.

"To prevent as far as possible concrete in the shattering zone causing damage as debris, the reinforcement should be well distributed throughout the work and care should be taken to see that there are no considerable masses of concrete unreinforced or so lightly reinforced that the reinforcement will be negligible in effect.

"The remarks given above about the provision of distribution reinforcement in slabs apply equally to walls. In addition, with heavier type of wall, lateral reinforcement tying the internal and external meshes of bars together appears to be an advantage. This lateral reinforcement may comprise zigzag rods arranged horizontally and embracing the outer layer of bars on each face. Alternatively the ordinary type of link can be used."

Apparently the damage from ground shock has not been nearly as severe as damage from explosions above ground, except in cases where craters are formed close to the footings of buildings. It would appear that if all footings were tied together, somewhat as recommended for earthquake resistant design, an improvement would result which might, to some extent, minimize the danger of footings being displaced. On the other hand, such a practice would tend to throw stresses into interior footings which otherwise might be unaffected. The problem of designing to resist air attack is a very large one and it does not appear that at the present time we are justified in going beyond first class design and construction, except in very special cases where the additional expense is warranted. On the whole, it seems to the writer that reinforced concrete has made a very creditable showing when one considers all of the uncertain factors involved.

POST WAR PLANNING WITH BUILDING PRODUCTS

By F. VAUX WILSON, V. P. Homasote Co.

Each industrial and commercial firm in the United States has a responsibility today to develop its own postwar production and marketing programs to maintain full employment after the war.

F. VAUX WILSON, JR.

President Roosevelt gave the green light to postwar planning in his message to Congress on January 7. He said it is a job for all of us to study sympathetically. Primarily, it is an obligation, and indeed an opportunity, for private enterprise to demonstrate its ability to continue high productivity and full employment when the war is over. The two major national business organizations — the Chamber of Commerce of the United States and the National Association of Manufacturers, both have committees at work. Recently, the objectives of the Committee for Economic Development have been announced. This Committee, organized and supported by business men, has gone to work to aid national, community and company preparation for the postwar. Its extensive research staff will study the policies of Government and business. It should provide valuable information and assistance to all of us.

National manufacturers of building materials and equipment who comprise the Producers' Council, have an important part to contribute to these postwar preparations. Not only must a high level of employment be attained in the years following the war, but it must be maintained. A continued high level of construction activity might be one of the most potent reasons of sustaining high general productivity and employment. It is for this reason that the Producers' Council has assumed the obligation of the building products manufacturing industry to the postwar program. But it is vital that every major interest in the construction industry—designers (architects and engineers); constructors (general contractors, specialized con-

* A talk before the Northern California Chapter, Producers' Council.

tractors and home builders); dealers and distributors; construction labor and financing agencies, as well as manufacturers, shall carefully study their respective parts in the program and join with the other construction interests in common phases of the problem.

I wish to emphasize the importance of each manufacturer carrying on studies to develop the fullest possibilities of production and employment in the postwar. If the minimum goal to achieve, as pointed out by the Committee For Economic Development, is a national output which is more than 35% above that of 1940, a record peacetime year, it is clear that private business can meet its responsibilities only if the thousands of individual enterprises develop their own production and marketing programs. The primary purpose of the Council's program is to give every aid and possible assistance to the individual company and manufacturing trade group. The Council's program will furnish basic analyses of the postwar construction market into which the manufacturer of building products must fit his production. The Council's Committee on Construction Forecasts is busily at work preparing a preliminary forecast of needed postwar construction of all types. The estimate will be available by summer, and thereafter it will be refined and revised periodically as surveys and specific proposals for construction programs develop in various fields.

The longer the war lasts the more certain it is that the unsatisfied demand for goods and services will create a tremendous immediate market, awaiting only resumption of peacetime production. While the immediate demand may be more predominantly for consumer goods, the entire construction industry should share generously in this market, through the demand for better living accommodations and through the growing volume of postponed major building projects. Preliminary estimates of such deferred construction run as high as 2 billion dollars. But plans and specifications should be prepared now—and architects and engineers are available and should be put to work on these preparations.

The long-term construction market is contingent upon continued development of a sustained demand for construction of all types. This requires thorough planning of construction activities with development and promotion of markets. Manufacturers of building products previously have not had the opportunity to join together in development and promotion of markets which the Council's program now gives them.

Market analyses will point out what types of construction can reasonably be expanded—which types can be expected to develop automatically; and which will require support in order that required volume be sustained. How to support or sustain these construction programs is the concern of the several postwar working committees established under the Council's program, particularly the Marketing Committee, Industry and Consumers' Relations and Government Relations to Construction. The adequacy of financing will be analyzed by the Finance Committee and technical phases studied by the Technical Committee.

The Council's local Chapters in principal marketing centers will have a prominent part in the postwar program. Long experience of manufacturers' local representatives in promoting quality building products with architects, engineers and contractors, qualifies them to advise the national postwar Marketing Committee on important phases of product promotion in the postwar.

The Producers' Council initiated its postwar program in advance of the general industry movement. It was first discussed in May 1941, and a decision to proceed was reached a month or so before Pearl Harbor. With the advent of war the program was speeded up. At the Council's meeting in Detroit, last June, the general objectives and organization were agreed upon. At this meeting the great possibilities in the postwar housing market were thoroughly analyzed. Participation in the postwar program has been thrown open to all building products manufacturers and trade associations of these manufacturers, regardless of membership in the Council. At the same time, the other branches of the construction industry have been invited to appoint liaison representatives to the general committee and to the working committees.

OPPORTUNITY FOR AN ARCHITECT?

In one manufacturing plant, now running three shifts on war sub-contracts, there is a well-paid man who has no title and who seems to do very little except stroll around the busy plant or sit in his cubbyhole office. He is known only as "Mr. Osgood."

Mr. Osgood is, to his enemies, a visionary, a day-dreamer. To his boss he is a Godsend, for he has the imagination, coupled with sound sense, to do the thinking about the business which the boss used to do in easier times, but which has been forced out of his schedule by frequent trips to Washington and by an enormous new mass of detail, much of which has to have his attention.

Up to this writing, Mr. Osgood has discovered two new applications of the company product, one of which is important, and both of which will be aggressively pushed after the war. In addition, he has thought out several minor changes of machine location which have proved helpful, and has developed a new packing-shipping technique which not only gets the product out of the plant far faster, but also saves enough money to almost equal the Osgood salary.

There are, in these days of hasty organization and get-it-done-at-any-cost, hundreds of plants which could use a "Mr. Osgood" to tremendous advantage. There are hundreds, probably thousands, of businesses whose heads still have no idea to what purpose they can put their expanded plants after the war. Furthermore, many expansions have been made so hastily in the determination to get the war job done, that appalling inefficiencies of layout and method have crept in, and the boss hasn't the time to straighten them out.

To be successful, of course, the day dreamer must be practical as well as imaginative. He must get along with people. He must know that he can't move a half-dozen big machines around to save a few dollars a week. He must be, in other words, a pretty practical dreamer, yet he still must have highly developed imaginative qualities.

Perhaps there are more men with those qualifications in architecture than in any other profession, for the one thing which architecture seems to demand for success is the rare ability to couple high imagination with common sense, with the demands of the job, and with the cost-and-return angle.

Perhaps here is an opportunity for a few architects to help do an important job, and at the same time enjoy an experience which cannot but be highly valuable in after-war days when they are back at their profession. It will, obviously, take imagination to develop the right approach to the manufacturer, for he is very busy, he is often constitutionally against paying people for thinking instead of working, and he is sometimes married to techniques and standards developed by his grandfather when a dollar a day was good wages and there was little need for speed.

But it can be done in plants of the right size. The giant corporations spend millions on research and for efficiency studies of all sorts—probably a far larger part of their income than would be involved in the paying of "Mr. Osgood's" salary by the smaller plant.

All this may not be the answer for many architects, yet it might be worth a few minutes thought.—The Von Duprin Magazine.

JUNIOR HIGHWAY ENGINEER WANTED

Although civilian use of the highways has been greatly restricted, construction and maintenance activities continue, says the California State Personnel Board in announcing an examination for Junior Highway Engineer. Typical duties include inspection of street and highway construction, supervision of survey parties, field testing and sampling of road construction materials. Appointment will be made on a permanent civil service basis, with a salary range of $185-$225.

Applications must be filed by March 10, 1943. Forms may be obtained from State Personnel Board offices in Sacramento, Los Angeles, and San Francisco.

NEW OFFICERS OF ARCHITECTS' AUXILIARY

On January 20, the Alameda County Architects' Auxiliary held their first meeting of the year at the Hotel Claremont, Berkeley. Following luncheon, a business meeting was held, Mrs. Irwin Johnson, president, presiding.

The war was brought close home to the members when announcement was made of the torpedoing of the U.S.S. Walke. As a Christmas project the Auxiliary had sent eight magazine subscriptions to the enlisted men on the U.S.S. Walke, not knowing that it had already been lost. Because of this unfortunate tragedy of war the subscriptions were transferred to the new submarine Hobby.

The new officers for the year are as follows: President, Mrs. Stafford Jory; Vice President, Mrs. Lefler Miller; Recording Secretary, Mrs. Loy Chamberlain; Corresponding Secretary, Mrs. Clarence Mayhew; Treasurer, Mrs. Howard Burnett; Membership Chairman, Mrs. John Donovan; Legislative, Mrs. Chester Treichel; Publicity, Mrs. P. H. Hammarberg; Education, Mrs. Irwin Johnson.

Various programs were discussed and the Auxiliary is looking forward to a very active year under the leadership of these officers.

Mrs. Irwin Johnson, the retiring president, has earned the sincere affection of all the members by her untiring work and efficient leadership for the past two years.

JAMES S. DEAN—ARCHITECT—PATRIOT

James S. Dean, formerly associated with his brother, Charles, as Dean and Dean, Architects, and for the past 13 years City Manager of Sacramento, recently resigned to accept a less lucrative position as Deputy Director of the California State Department of Finance. Dean's boss will be John H. Hassler, formerly City Manager of Oakland.

THE DRAFTSMAN

All day he leans above his desk, his eyes
Intent on line and curve. The shining cloth
Accepts the pattern of his mind, implies
The delicate precision of a moth
With summer's hour, as slowly thought assumes
The shape of beauty. Sunlight filters through
The quiet windows of the drafting rooms,
Slips down the sky, and rest is overdue.
Yet lovingly he lingers still upon
The task enriching him twofold: the pride
Of artistry—as bright as that which shone
In Raphael's soul—burns in his own beside
That other fire in whose warmth, tirelessly,
He spends himself to build for liberty.

—Kathleen Sutton.

"SEABEE" ENGINEERS WANTED

The Navy needs engineers and superintendents right now to command "Seabee" battalions constructing naval bases, according to Captain C. E. Arnold, Director of the Office of Naval Officer Procurement in San Francisco.

The Navy is building airfields and roads and bridges, water and sanitary systems, storage facilities and living quarters all over the world, and these naval bases must be finished before the enemy can be attacked and victory won.

Only experienced construction men with the "know how" can push the work on these bases. The Naval Reserve is offering commissions and warrant to field engineers and superintendents from 19 to 50 years of age. Draftsmen are not needed. Men under 30 must have college degrees for commission, but full college education may be waived in the cases of some older men with outstanding supervisory experience.

The need is urgent. Obtain full information or apply at once at the Office of Naval Officer Procurement, 703 Market Street, San Francisco.

NEVADA POST WAR BUILDING

City Engineer James Glynn of Reno, Nevada, and A. M. MacKenzie, engineer for the National Resources Planning Board of the Federal government, have submitted to officials of Reno, Sparks and Washoe County a six-year improvement plan for Reno, calling for an expenditure of more than $3,000,000.

All of the projects are post war improvements, including storm sewers, reconstruction of downtown streets, diversion of canals, new city hall and fire-house, bridges and river improvement.

FUNDS FOR WAR VETERANS HOME

Legislation designed to give veterans of the present war the same consideration given those of the last war in building or purchasing homes and farms has been introduced in the California State Legislature.

Assemblyman Chester Gannon, Sacramento, has a bill which would set up a $30,000,000 fund to finance loans at a low interest rate and with a 20-year term.

NEW HOMES AUTHORIZED FOR S. F.

New homes — one thousand of them have been authorized for private construction in San Francisco on the recommendation of Eugene Weston, Jr., regional representative of the National Housing Agency.

The approval by Washington covers private construction of new homes in San Francisco. These new houses are the first authorized in San Francisco since last March.

Weston said that, in addition, a very substantial quota for private and public conversions also had been authorized for San Francisco.

Entirely apart from these authorizations, it was learned that very sizable additions to Bay area housing, both in new construction and private and public conversions, have been recommended.

"This is good news indeed," commented Fred E. Palmer, manager of the San Francisco War Housing Center, "because builders in San Francisco have been claiming the need for new private housing in this area."

N. C. STRUCTURAL ENGINEERS

The Structural Engineers Association of Northern California will hold regular meetings this year every other month instead of monthly. The next regular meeting will be held in March.

Association affairs of interest include informal discussions of post-war conditions with the subject tentatively set for an open forum at a later date; promotion of Jack H. Oldenburg, member, to Ensign in the Navy; illness of A. A. Brown; hospitalization of M. V. Pregnoff for a three weeks period; a new "Sea Bee" in the person of John L. Hunter; membership increase by the acceptance of applications from Harry A. Cobden and J. J. Polivka, both of Berkeley, and Chas. C. MacClosky of San Francisco.

M. C. Poulsen has been appointed vice-chairman of the Northern California District Committee of the American Society for Testing Materials, and Theo. P. Dresser, Jr., has been reappointed permanent secretary of the same committee.

LABORATORIES ACCREDITED BY O.P.A.

Two California laboratories were among a list of eight for the entire nation which have been added to the government's accredited list for testing upholstered furniture and bedding containing substitutes for metal springs, it was announced at OPA regional headquarters in San Francisco.

The two firms mentioned in the announcement were R. W. Hunt & Co., 251 Kearny St., San Francisco, and the Twining Laboratories, 2527 Fresno St., Fresno.

Officials of OPA explained that when a manufacturer applies for price approval of articles using spring substitutes other than solid filling construction, he must enclose a report from a properly accredited testing laboratory showing the performance of his product under the standard tests provided.

ARCHITECTS' BULLETIN

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Northern Section

STATE ASSOCIATION MEMBER OF THE AMERICAN INSTITUTE OF ARCHITECTS

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THE STATE ASSOCIATION

Some one once made the observation that the least government that a people can get along with is the best government. Judged by the standard of scarcity, the architectural profession in California is an extremely well governed body of men. Few demands are made by their Institute and by their State Association upon the architect's time, and measured by the standards of the less skilled occupations, the architect's unions are extremely modest in their demands on the pocketbooks. (Calm down, brothers, the U.S.A. is a Union").

A minimum of organization has its good points. There come times, however, when, without the aid of organization, the members of the profession are powerless to protect themselves. The architects' organizations are the first step in an armament program, and peace at any price has proven to mean annihilation. The sessions of the State Legislature usually present openings for those who would gain for themselves at the expense of the architect and of the public which he serves. This year is no exception, for, among the two thousand or more measures now pending at Sacramento there are some bills which may prove disastrous if not combatted with organized force and skill, vigorously and promptly applied. Some of the bills now in the hopper will, if passed, wreck the legal protection now enjoyed by the public against incompetence in the preparation of plans and specifications for building.

Even the most unsophisticated of men must know by now that, in political affairs, the individual protest counts for little. Our whole democratic process depends upon the expression of the opinion of the many. So in times such as these the State Association is invaluable. It is organization which makes vocal the ideas and the ideals of the profession, and gives a medium of expression for the friends of skill, quality, and competence in building.

During ordinary months the activities of the officers, executive board, and advisors are largely concerned with positive movements looking toward the safety and planned betterment of the community, with the dissemination of architectural education, and with the minor, though important, easing of the contacts within the profession. During times of danger the State Association becomes the militant force to protect our existence and to guard our boundaries.

The maintenance of an effective State Association requires vigor, enthusiasm for the profession, time, and money. Somehow, there are always a few who are willing to carry the torch. But the torch bearers are always plagued by a scarcity of oil to light the torch into more than feeble flame. A recent suggestion proposes the payment of dues by salaried members of the profession and the payment of a small percentage of their professional fees by the members in active practice. The suggestion is worthy of a thought.

The officers of the State Association are making effective the small bit of government entrusted to them to the limit of their means. They may need the help of every architect and his friends in the next few weeks. The architects are urged to keep in touch with their officers and advisors for the latest

developments in the status of their affairs, and to make sure by their personal efforts that the Legislature passes no bill lowering the professional standards of those to whom is entrusted the building of our homes and our communities.

Blanchard

President Norman K. Blanchard of the State Association of California Architects, Northern Section, whose picture appears on this page, was born a Yankee, but early saw the error of his ways, and removed to California. He graduated from the University of California in the School of Architecture in 1922, and then went on to take his 'Master' and "Graduate in Architecture" degrees. His scholastic career was marked by the winning of top honors including the School and the A.I.A. medals for excellence of design.

NORMAN K. BLANCHARD

President Blanchard's professional career has included such varied types of work as rebuilding in Santa Barbara after their 1925 earthquake, experience in San Francisco on public buildings and hospitals, numerous mountain structures for the National Park and Forest Services, schools, churches, Exposition buildings, farm groups, and in recent months Naval shore works and large scale housing.

When Wayne Hertzka, then President of the State Association, entered the Army last year, Norman Blanchard, who was Vice-President, stepped up to the President's chair, and was elected to the Presidency again last fall. His activities with the Association have been marked by a vigorous campaign to make known the architect to the general public.

Dean

Word has come from Sacramento of the appointment of James S. Dean to the post of Executive Director of the California State War Council. This announcement follows the appointment of Mr. Dean to a post in the executive staff of Governor Warren which was made shortly after the inauguration of the new governor.

The architects of the state can well welcome the inclusion of Mr. Dean in important offices of the state administration. Following a successful career in which he and his brother did much to lift the standard of architecture in communities away from the larger cities of the state, he was appointed City Manager of Sacramento, in which work he has made an outstanding success. His advancement to wider fields lends strength to the state administration.

A JOB—SENIOR ENGINEERING AID

Permanent appointments as Senior Engineering Aid will be made following an examination by the California State Personnel Board. Principal requirements include completion of the junior year in college with a major in civil engineering or completion of the twelfth grade with one year of engineering experience. Additional desirable qualifications are experience in construction work and some knowledge of soils, geology, and engineering office procedure. Salary range in this classification is $155-$195 a month. Applications must be filed by March 5 and forms may be obtained from the State Personnel Board offices in Sacramento, San Francisco, and Los Angeles.

EDWARD LANGLEY SCHOLARSHIPS FOR 1943

Proposals of candidates for the Edward Langley Scholarships for 1943 must be filed with the A.I.A., 1741 New York Avenue, Washington, D. C., before March 31. Awards will be announced in May or June. The scholarships are awarded annually for advanced work in architecture through study, travel or research and are open to all residents of the United States and Canada engaged in the profession of architecture (including draftsmen, specification writers, supervisors and executives, teachers and students).

DOUGLAS D. STONE

Douglas D. Stone, architect of San Francisco, has been elected chairman of the San Francisco City Planning Commission, succeeding Charles H. King. Stone has been a member of the board for practically two years and has performed a creditable job. The Architect and Engineer naturally takes satisfaction in Stone's promotion because its editor was among those to recommend his appointment. Carlton H. Wall has been chosen vice chairman of the Commission.

WAR HOUSING BY ROUSSEAU

Arthur M. Rousseau, prominent contractor of San Francisco, states that during 1942 he supervised about $10,000,000 of dormitory war apartment, cafeteria, barracks, and administration building construction for various Government agencies in Richmond, Benicia, Vallejo, Watsonville and other cities.

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PRODUCERS' COUNCIL PAGE

Northern California Chapter

The National Organization of Manufacturers of Building Materials and Equipment
Affiliated with the AMERICAN INSTITUTE OF ARCHTECTS

C. W. (CHUCK) KRAFT

Thumbnail of C. W. Kraft, new President of the local chapter. . . . "Chuck" was born in Buffalo and started "shuffling" westward . . . arrived on the Coast in 1936 and became President and General Manager of The Kraftile Company . . . is the father of three boys and one girl, lives in Piedmont and putters in the garden when at home.

Other new officers recently installed, are Vice-President, Horace L. Pickett, National Lead; Secretary, Chet Cook, Sisalkraft; Treasurer, Ed. Stein, Pittsburgh Plate Glass. Look for thumbnails on these "characters" in future issues.

Thanks to Architect & Engineer from the executive committee for giving the Council this new medium of bringing news of the local and national Council activities to Council members and their friends. This monthly feature in Architect & Engineer, supplants the news bulletin which was one of the past administration's outstanding contributions to a most successful year. Because the Council's activities are so closely linked with those of architects and engineers, it is felt that by presenting Council news here, a closer cooperation will be possible.

1943 Council Plans will center on Post-War planning. Close cooperation between the Council and architectural and construction groups will be the endeavor through this vital year. An effort will be made to increase local representation of all National Council members. The monthly luncheon meetings, so successful last year, will be continued. Likewise, short talks by members on wartime and Post-War uses of their products will be headlined. "Council members voice plenty of confidence in the Post-War picture and the part the architect will play in it," said President Kraft in a recent press release.

Gano Baker, immediate past President of the Council, was the featured speaker at a recent meeting of the American Society of Military Engineers in San Francisco. Baker explained the wide scope and aims of the Council nationally and locally.

Next month, the Monday luncheon meetings will be resumed, the March meeting is scheduled for Monday the first. The place, room "A," Palace Hotel; the time, 12 noon. Vice-President Horace L. Pickett, in charge of the program, announces two 12 minute talks, speakers to be named later. Members are urged to come and bring an architect or engineer friend. We again invite architects to come uninvited if they wish. Many did last year in response to notices mailed them, and without waiting for a personal invitation from a member.

Military Information about members and friends in the Service. Architect Les Hurd, now Colonel Hurd, Chemical Warfare Services, Washington, D. C., is supervising construction of war chemical plants. Les' activities for the Army included a recent trip to England. Despite this busy life, Les finds time to write occasionally and ask that he be remembered to his friends here. . . . From William W. Wurster only this, "Gone to Cambridge for a year," and if that's not keeping a secret well, we've something to learn. . . . William Herbert writes he is with Army Engineers at Port Townsend, Washington. . . . Gardner Dailey is in Washington, D. C., but we have no details. . . . Paul DeWitt is at Fort MacArthur, San Pedro, and asks as do so many other former members that we keep him on the mailing list.

"Surplus, $1,000,225.08," says John Donovan, the architect, who spoke at the annual meeting and installation of new officers on January 12. John made the remark in reply to old-timer Fred Scott, who reported a Council cash reserve of $255.08. The million dollars was added by Donovan, who fixed that amount as the value of Architect-Council relationships built up through the activities of the local chapter during past years. Louie Saylor's report of the cash reserve was received by Fred in amazement, because in Fred's time an unspent surplus was a thing to be dreamed of and not a reality in the local chapter.

NATIONAL DIRECTOR ADDRESSES COUNCIL ON "POST-WAR PLANNING WITH BUILDING PRODUCTS"

F. Vaux Wilson, Vice-President of the Homasote Co., and national Vice President of the Producers' Council, addressed the local chapter February 4. See page 31 for his address in full.

USE QUALITY PRODUCTS • CONSULT AN ARCHITECT

THE ARCHITECT—
STILL ADVANCING ON THE WAR FRONTS

Architects in Northern California seem to be "getting by" despite a deal of moaning when the Government first started to clamp down on private building. Those of the profession who have not been able to make a connection in essential building construction have found employment in the shipyards and other channels. And then, too, not a few are in the Army or Navy, most of them wearing chevrons. Let's take a run through Architects' Reports (a service published daily by Architect and Engineer for the building industry) and see just what the local fellows are doing:

SCHOOLS AND EDUCATIONAL BUILDINGS

Fire damage to the Winters High School has brought a commission to Messrs. Dragon and Schmidts of Berkeley for rebuilding the structure. Preliminary plans for improvements totalling $30,000 are well in hand. . . . Messrs. Franklin and Kump, 251 Kearny Street, San Francisco, have started sketches for a grammar school at Birds Flat, Lassen County. A Federal grant has been requested for the $120,000 structure.

The Housing Authority of the City of Richmond has commissioned Frederick H. Reimers to plan a 10 classroom grammar school and a commercial building in connection with the Harbor Gate project at Stege, Contra Costa County. Construction of the two buildings has started. . . . Additions are being made to the Boeing School of Aeronautics at the Oakland Municipal Airport, from plans by W. D. Peugh of San Francisco.

Franklin and Kump loom again with a $20,000 grammar school at San Pablo and a lunch room addition to the Hayward Union High School. . . . Contracts have been let from the office of Carl F. Gromme, San Rafael, for an $85,000 grammar school at Sausalito. This is for the Marin County Housing Authority and is part of the Waldo project. . . . Additions to the Marine training school, near San Mateo, are being made with no named architect announced. Cost of improvements will exceed $100,000.

PUBLIC HOUSING FOR CONGESTED AREAS

Bids have been taken for two dormitories and an administration building for the Pittsburg Housing Authority from plans by E. Geoffrey Bangs, Keith O. Narbett and E. T. Spencer, all of San Francisco. . . . At Marysville the local Housing Authority is sponsoring two housing projects of a total of 100 units, from plans by Herbert E. Goodpastor of Sacramento. . . . Two market buildings are projected for Richmond with plans under way by the Maritime Commission's engineers. . . . Federal funds have been allotted for a 200 unit trailer camp in Alameda. No architect. . . . Maritime Commission has let a contract for 4,000 war apartment units in Richmond to Robert McCarthy, 1050 Kirkham Street, San Francisco.

At Las Vegas, Nev., 300 temporary dwelling units have been started from plans by Blanchard & Maher and Ward, San Francisco architects . . . the same architects have other temporary dwelling units for Bishop, Toiyable Gabbs Valley and Luning, Nev. . . . Preliminary drawings are in progress by Messrs. A. F. Roller and J. H. Mitchell for 524 dwelling units and 128 dormitory units at Millbrae . . . also the same architects have plans under way for 200 dwelling units in South San Francisco.

ARMY AND NAVY AND MISCELLANEOUS JOBS

A lot of construction work is being done by both war branches with locations and types of buildings withheld for military reasons. Owner's engineering departments appear to take care of most of the work but in many cases architects are members of the drafting staff. . . . There is a small amount of private housinig going on in the Bay region where the owners have convinced the government that the improvements are essential to winning the war.

A. A. Cantin and Jas. H. Mitchell each have apartment houses which are needed in congested zones. . . . Albert Froberg of Oakland has a foundry for the Pacific Steel Casting Co. in Berkeley and W. D. Peugh is building a new hangar and shop for the United Air Transport Corp. at San Bruno.

SPECIAL NOTE—Important Corrections in this issue.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.
Government work ¾%.

Brickwork—

Common, $23, $25 per 1000 laid, (according to class of work).

Face, $90 to $100 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.00 lin. ft.

Brick Veneer on frame buildings, $1.00 sq. ft.

Common f.o.b. cars, $16.00 at yard. Cartage extra.

Face, f.o.b. cars, $40.00 to $60.00 per 1000, carload lots.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.95 per ton at bunker; delivered, $2.50. All quotations less 10% to contractors.

	Bunker	Delivered
Top sand	$1.90	$2.50
Concrete mix	1.90	2.45
Crushed rock, ¼ to ¾	1.90	2.50
Crushed rock, ¾ to 1½	1.90	2.50
Roofing gravel	2.25	2.80
River sand	2.25	2.70

SAND—	Bunker	Delivered
River sand	$2.25	$2.70
Lapis (Nos. 2 & 4)	2.85	3.15
Olympia Nos. 1 & 2	2.85	3.10
Del Monte white	84c per sack	

Common cement (all brands, paper sacks) carload lots $2.42 per bbl. f.o.b. car; delivered $2.60.

Cash discount on carload lots, 10c a barrel, 10th Prox.

Atlas White, Calaveras White, Medusa White — 1 to 100 sacks, $2.70 sack, warehouse or delivery; $7.65 bbl. carload lots.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet. (Available only for priority work.)

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13/16x2¼" T&G	⅜x2" T&G	⅞x2" Sq.Ed.
Clr. Otd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), glazed, 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$45.00 per M
No. 2 common	43.00 per M
Select O. P. Common	48.00 per M
1x4 No. 2 flooring VG	80.00 per M
1x4 No. 3 flooring VG	75.00 per M
1x6 No. 2 flooring VG	90.00 per M
1¼x4 No. 2 flooring	85.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G	50.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.40 per bdle.

Plywood—Douglas Fir (add cartage)—
"Plyscord" sheathing (unsanded)
⅜" 3-ply and 48"x96" ..... $39.75 per M
"Piwall" (wallboard grade)—
¼" 3-ply 48"x96" ..... $43.70 per M
"Plyform" (concrete form grade)—
⅝" 5-ply 48"x96" ..... $117.30 per M
Exterior Plywood Siding—
⅜" 5-ply Fir ..... $132.00 per M
Redwood (Rustic) 1"x8" clear heart.. $ 95.00 per M
$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $100.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, $1.08 per gal., in 5 gal. cans, and 95c per gal. in drums.
Raw Linseed Oil—$1.32 gal. in light drums.
Boiled Linseed Oil—$1.35 gal. in drums and $1.48 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12½c
500 lbs. and less than 1 ton	13¼c
Less than 500 lb. lots	13¾c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.70
2 coats, lime mortar hard finish, wood lath	.90
2 coats, hard wall plaster, wood lath	.80
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.60
Ceilings with ¾ hot roll channels metal lath (lathed only)	1.10
Ceilings with ¾ hot roll channels metal lath plastered	2.00
Single partition ¾ channel lath 1 side (lath only	1.10
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	2.00
4-inch double partition ¾ channel lath 2 sides plastered	3.50
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	3.00
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	4.00
3 coats over 1" Thermax nailed to one side wood studs or joists	1.50
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.75

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000 (not available)	
2.5-lb. metal lath (dipped) (not available)	.19
2.5-lb. metal lath (galvanized) (not avail.)	.21
3.4 lb. metal lath (dipped) (not available)	.22
3.4-lb. metal lath (galvanized) (not avail.)	.24

¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $25.00 ton.

Plasterers Wage Scale	$1.75 per hour
Lathers Wage Scale	1.75 per hour
Hod Carriers Wage Scale	1.50 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.50
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware, $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00. Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)

Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft
4 x 6 x 12	1.15 sq. ft
2 x 8 x 16	1.10 sq. ft
4 x 8 x 16	1.30 sq. ft

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1942 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

*6-hour day **7-hour day

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.75	* 2.00	* 1.79-1/6	* 1.75	* 1.75
BRICKLAYERS' HODCARRIERS	* 1.35	* 1.25	* 1.05	* 1.25	* 1.05	* 1.35	* 1.35	* 1.40	* 1.14
CARPENTERS	1.37½	1.37½	1.25	1.37½	1.25	1.25	1.37½	1.25	1.25
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.60	* 1.75	* 1.75	* 1.50	* 1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	** 1.50	** 1.50	** 1.28-4/7	** 1.50	1.25	** 1.50	** 1.50	** 1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	* 1.75	* 1.83	* 1.75	* 1.83	1.75	* 2.00	* 2.00	* 1.75	* 1.83-1.
PLASTERERS' HODCARRIERS	* 1.50	* 1.45	* 1.40	* 1.40	* 1.18¾	* 1.35	* 1.75	* 1.40	* 1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	* 1.50	* 1.75	1.50	* 1.75	* 1.75	* 1.50	1.75	* 1.75	* 1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

PLASTERCEPTOR—The J. A. Zurn Mfg. Co., Erie, Pa., has developed a wartime model of a Plaster Interceptor which employs vitreous china for the body and a removable sediment container. Metal is now used only for the two pipe connections, strainers and cover fastener. The vitreous china employed is fired at a much higher temperature and for a longer period than when intended for less exacting service. Such units are used wherever solids are likely to get into drainage lines.

LUMARITH—A product of the Celanese Celluloid Corporation, division of the Celanese Corporation of America, replacing more critical materials for curves and other mathematical instruments. These necessities for the designing of war products are made by American Blue Print Co., 304 Madison Ave., New York City.

"COLORTHRU" is a new finish coat for masonry that needs no priming or undercoat. One coat applied to brick, stucco, cement, etc., penetrates, waterproofs and preserves. Leaflet on this modern product may be had by writing Colorthru Chemicals, 20 East 45th St., New York City.

FUEL CONTROLS—"Selecting Controls for Fuel Conservation" is the title of a new manual prepared to accomplish two aims: (1) To explain in simple terms as they apply to different types of firing, the fundamental rules and formulae which govern the proper burning of fuel and the utilization of heat so created; (2) to offer suggestions for the selection of equipment with which the most efficient use of fuel can be attained. Illustrated with plan drawings and containing a division on oil burning, this manual will be sent upon request by The Hotstream Heater Co., 8007 Grand Ave., Cleveland, Ohio.

RUSTBUSTER — An entirely new type anti-rust, anti-corrosion agent offers interesting results and savings when added to steam and water line applications. This chemical and its uses would seem the answer to many corrosion problems that necessitate maintenance costs and part replacements, both of which get more difficult each day. Advantages of internal protection are claimed by the Cannon Chemical Co., Everett, Mass.

CONVERSION LIGHTING—A new folder designed for plant superintendents and operating executives on the subject of "Relighting With Fluorescent in Wartime." The folder reviews WPB's booklet, "Plant Efficiency" and describes method of obtaining suitable priority. Non-metallic fluorescent lighting units are illustrated and described. Edwin F. Guth Co., 2516 Washington Blvd., St. Louis, Mo.

FLOORING — "Floors That Endure," a 12 page catalog from the Tile-Tex Co., Chicago Heights, Ill., describes Tile-Tex resilient flooring. The complete range of marbelized colors is shown in actual colors, as are some of the Tile-Tex installations in homes and public buildings.

FENCES — Data sheet (2 pages, Sec. III, File 3-D-10) on industrial fences presents information on two standard types, one constructed of random-width redwood boards, the other 12" boards with battens and fence cap. For each style, a complete materials list is presented for various heights. Sketches show construction details. California Redwood Association, 405 Montgomery Street, San Francisco.

CEMESTO BOARD—Detail Sheets S-1, S-2, and S-3, covering the industrial application of Cemesto board to steel mill buildings and, by nailing, to light weight steel buildings. The Celotex Corp., 120 S. La Salle Street, Chicago.

INSULATION—A 28 page catalog on Fir-Tex insulating board which may be used for building material, a structural sheathing, an insulating base for plaster, and as a decorative interior finish. Illustrations in color show typical installations in home, office, and industrial buildings, Fir-Tex Insulating Board Co., Portland, Ore.

WOOD LINK MATTING—The development of substitute materials in the manufacturing of matting became a vital necessity when rubber and other materials were put on the critical list if the advantages of matting were to continue available. This has resulted in the development of Flexible Wood Link Matting, constructed of wood links. It comes in natural wood color and is moderately priced. American Mat Corporation, 1799 Adams St., Toledo, Ohio.

NEW PROCEDURE FOR INDUSTRIAL, HOTEL, LOFT CONSTRUCTION

A revision of procedure to be followed by operators of office or loft buildings, apartment houses, hotels, industrial plants and other substantial buildings in filing a single application for blanket authorization to cover small miscellaneous construction work for a period up to six months is now effective, according to a bulletin by the War Production Board.

This authorization makes it possible for the operators and WPB to avoid handling numerous applications for construction jobs which are necessary in larger buildings. Before the original procedure was instituted last September, operators had to receive individual authorizations when the cost for all such work reached the limits set in the stop-construction order, L-41.

Under the new plan all miscellaneous construction jobs, except those estimated to cost $10,000 or more may be included in a single application for blanket authorization. The previous limit was $5,000. A separate PD-200 application must be submitted for each structure or project estimated to cost $10,000 or more for which authority to begin construction is required. The revised procedure also provides for the filing of all applications covering miscellaneous construction jobs, not requiring priority assistance with the War Production Board, Construction Division, Empire State Building, New York City. Applications covering miscellaneous industrial construction jobs requiring priority assistance must be filed with the War Production Board, Washington, D. C.

Applications covering miscellaneous jobs must describe all proposed construction work within the stated period of time in terms of specific jobs, dollar value of each job, as well as quantities of materials to be used.

Where it is impossible for the applicant to forecast the proposed jobs accurately, an application of a more general nature will be accepted. However, the estimated total cost of the proposed construction and a preliminary materials list must be included.

Items on which priorities assistance will be required must be indicated regardless of whether or not they are required to be included in the estimated cost. Where possible, schedule of deliveries of specific quantities of materials must be shown. Commitments for purchase of materials may be made immediately upon approval of the application.

Necessity for filing applications on Form PD-1A is eliminated by the revised procedures.

Where applications of a general type are filed and authorizations are issued, applicants must file within two weeks after the expiration of the term of the authorization, a report on the work done, the cost, and the materials consumed. Form PD-200 must be used for all such applications and reports. In reporting on the work done, the form must be accompanied by a lettering indicating the serial number and date on which the application was approved.

SAN FRANCISCO ARCHITECTURAL CLUB

The San Francisco Architectural Club held its regular monthly meeting February 3 at the Builders' Exchange. Following a brief business session the meeting was turned into an interesting discussion on the pros and cons of prefabrication. Refreshments were served after adjournment.

Members in military service include Lieutenants Richard Audsley and Joseph Scoma, U. S. Army; Lieutenant Commander C. J. Sly and Ensign Jack Oldenberg, U. S. Navy, and Warrant Officer Otto Hintermann, U. S. Coast Guard.

The club officers for 1943 are as follows: President, Fred Barss; Vice President, Clement Mullins; Secretary, Leo Daly; Treasurer, John Arndt; Directors, John Garth, Robert Paige, and Christian Wilder; Trustees, Ira Springer, Leland Hyde, and Edmund Rybicki.

THE AMERICAN HOME OF TOMORROW

Lawrence Whiting, president of the American Furniture Mart in Chicago, recently addressed the San Francisco furniture dealers, asserting among other things that the biggest business in America—outside of war—is furnishing homes and after the war it will be the biggest.

"Of some 3500 furniture factories," he said, "about 27 per cent are working exclusively for the war. The other 73 per cent have not been called upon.

"There will be no serious shortage of furniture because most of the military needs now have been supplied. There will be shortages of materials and the industry is supplying alternatives that are splendid.

"After the war, the furniture industry will supply America's greatest demand—furnishing of the home."

The American home of tomorrow will be delivered complete—the house and the furnishings. Homes that used to cost around $7500 will cost about $4000, complete with everything.

"It is unbelievable, but the industry today is producing 47 ply 'beaver board.' That means 47 layers of wood and it is only possible because of new developments in the industry. Such plywood is stronger than steel and amazing things are being done in the making of propellers and other airplane parts."

Colonel Whiting asserts that manufacturers "who do not keep abreast of modern developments or who close shop now" will find themselves "out in the cold" after the war.

"You will find that big companies which now are converted to war industry will go into this field—the biggest in America.

"Manufacturers who have not the foresight to see the future will be driven out of business."

"New homes and new furnishings will have as many varieties in style as clothing has—or had."

RELIEF SOUGHT FOR HOUSING SHORTAGE

The W. P. Fuller Company, nationally known paint dealers, have taken the initiative in a bill-board campaign in California, Oregon, Washington, Arizona and Utah, in an endeavor to relieve the critical housing shortage in these states.

A special war message, written and printed by Fuller, is being read today in almost every way production center in the Far West. In billboard form (illustrated elsewhere in this issue) it carries 4 straightforward lines of type with colors and design reduced to the utmost simplicity to emphasize the importance of these words:

Put a roof over a Warworker's family!
RENT YOUR SPARE SPACE NOW FOR CASH!
REMODELING MATERIALS AVAILABLE!
Call WAR HOUSING CENTER *SU. 6867 Immediately
*Phone number changes by cities.

Thousands of dollars are buying billboard space for this message in cities where housing conditions are hurting war production, from Oakland to Ogden, from San Diego to Seattle. In these areas the National Housing Agency has established War Housing Centers to handle leasing, conversion, priorities, etc. Fuller has made its tie-in especially effective by featuring the local Housing Center's telephone number, and urging people to "call immediately."

Fuller has worked closely with the National Housing Agency to insure complete coordination with local War Housing Centers. In town "A," for example, the Housing Center was not officially set up until after Fuller's poster had gone to press. Advised of this in advance, Fuller ordered extra paper printed and held for instructions. As this article is being written the lease is under negotiation for Housing Center headquarters in town "A." Shortly, a telephone number will be assigned; Fuller will rush printing of that number for 'sniping' on the completed design; and posters will appear in town "A" just in time to coincide with the local Center's initial publicity campaign.

Likewise, in towns "B" and "C." There, the decision to set up War Housing Centers is awaiting official action in Washington. Answers are expected momentarily; and Fuller is ready—with poster paper held at the printer's until the word comes through and 'phone numbers are supplied. Then, as fast as presses and trains can go, the posters will be 'up' in 'B" and "C."

Thus, one western industry contributes what it can to help in the battle of production.

PORTLAND 1943 A.I.A. OFFICERS

Oregon Chapter, A.I.A., has named the following officers to serve the current year:

President, Pietro Belluschi; Vice President, Francis B. Jacobberger; Secretary, Margaret Fritsch; Treasurer, Thayne Logan; Trustee, Roi L. Morin; Trustee, Clarence Wick.

Above officers were elected at the annual meeting January 19.

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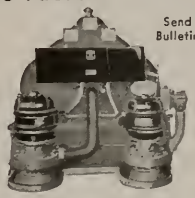
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PREDICTS BUILDING BOOM

A boom in housing in the post-war period was forecast by L. M. Cassidy, vice president of the Johns-Manville Sales Corporation at the recent War-time Conference of the National Retail Dry Goods Association in New York City.

"It will afford you widespread markets for the sale of rugs, curtains, appliances, furniture, household supplies and many other items too numerous to mention," he told the Nation's retailers.

"Beyond that, bear in mind that the building industry is the third largest in the American economy. A future boom in the industry will bring with it widespread employment and spending power which will favorably affect our entire national economy.

"Despite the pickup of home construction that started in 1937, prior to the war, we did not have a single year since 1929 that was equal to the home construction in that year. The year 1941 came close to matching 1929. In the 10-year period of the '30's we averaged only 300,000 new home units a year, compared to the 712,000 annually in the period of the '20,'s," Cassidy emphasized.

"We are experiencing a significant change in our population which is favorably going to affect our home building market. A mistaken impression still prevails that because the total population of our country has slowed down from an increase of 16,-500,000 in the decade of the '20's to about 9,000,000 in the decade of the '40's that home building will be adversely affected.

"While this eventually is going to pose a problem to the industry, fortunately it is one that we shall not meet until about 1955. A strange paradox is involved.

"While the rate of growth of our total population has declined, the number of people in that important age group of 25 to 44 is still growing faster than at any time in our history and will continue to do so until about 1950, when the increase in that age group will begin to slow down but it will not actually decline in numbers until about 1955, fully 12 years hence.

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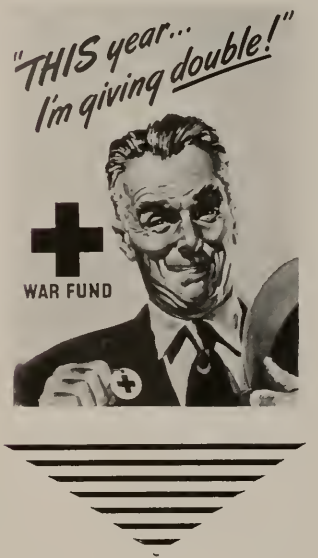

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"There is another phase of the population factor that should not be overlooked in considering future housing requirements, and that is possible shifts in large numbers of our population. Home building in important volume takes place where people move to and not where they move from, or where they may stay put.

"In many instances, industry that was located during the war as temporary is going to become permanent. People under war conditions have been satisfied to live in trailers, rooming houses and other temporary forms of housing, but when the war is over more permanent housing is going to be required to house them in those areas. Faster transportation, expanded highway facilities, decentralization of some of our industries—all will contribute to the sizable shifts in population.

"In total it is conservative to estimate that at a minimum we will have from two to three times as many homes built in the 10-year period following the war as were constructed in the 10 years prior to the war."

BROKEN GLASS ON HIGHWAYS

An alarming increase in amounts of broken glass and jagged fragments of bottles on main traveled highways, particularly strategic roads in the vicinity of defense plants and army encampments, has aroused in the mind of State Director of Public Works C. H. Purcell a suspicion that deliberate sabotage may be involved.

With the urgent need for conservation of tires, undermanned crews of the Division of Highways are working overtime to meet the new emergency of sweeping glass off the roadways, according to T. H. Dennis, Maintenance Engineer.

Similar deplorable conditions are reported in the San Diego, San Luis Obispo, Monterey and San Francisco Bay Area and other districts.

"The Division of Highways," Purcell said, "is doing everything possible, handicapped as it is by a shortage of manpower, to cope with the situation, but we must have the full cooperation of the Army, Navy, defense plants and the citizens of California.

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"It may be necessary to ask the Legislature to increase the penalty for throwing on any street or highway any glass, nails or other substance which might injure tires. Section 601 of the Vehicle Code makes such acts unlawful.

HOUSING RESTRICTIONS EASED

A revision of war housing construction standards, easing in some respects the restrictions on design and material consumption, has been announced jointly by the WPB and the National Housing Agency. The standards were originally established October 28, 1942.

The principal changes, which are of particular interest to private builders, included:

Increase of 10-15 per cent in permitted floor area.

Removal of ban on use of softwood lumber for finished and sub-flooring.

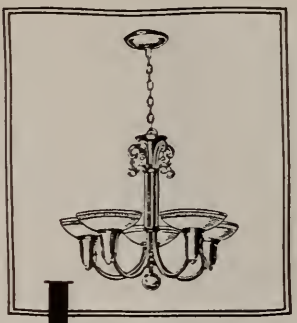
Expansion of areas in which wood frame construction may be used. Elimination of heating provisions, since the major requirements formerly included have been incorporated in the current war housing critical list.

The relaxation of the restrictions on the use of lumber does not mean that the critical character of the softwood lumber situation has improved, War Production Board officials explained, but rather that there is an indication of an increase of side cuts in logging areas where no facilities are available for storage. Moreover, the primary need of the armed forces is for timber, and the development of side cuts in logging areas without a ready market may hamper timber production.

In prescribing the maximum floor areas for dwelling units of various sizes in the original standards, WPB and NHA officials acted to insure that the maximum number of such units would be produced from the limited visible supply of critical material. In increasing the floor areas, the revised standards will make it easier for builders to operate within the restrictions imposed on war housing construction, and better-planned, more livable homes are expected to result.

The use of softwood finished flooring or softwood sub-flooring has been

(Turn to Third Cover)



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HOUSING RESTRICTIONS

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prohibited since the war housing standards were set up in October.

In those states within reasonable reach of the Pacific Northwest and Southeastern lumber producing areas, the use of lumber for war housing construction within certain limitations will be permitted.

All war housing, including public and private, and large and small projects are affected alike by the revised standards, and builders whose plans and specifications fail to conform will be denied priority assistance.

Copies of the new standards are available at all field offices of WPB and FHA.

WAR LABOR BOARD

Under a decentralization plan aimed to localize and speed up control and adjustment of wages and salaries, the National War Labor Board has reconstituted its Tenth Regional Advisory Council as a Regional War Labor Board, at the same time giving it wide powers of action and decision.

Thomas Fair Neblett, since December 1, 1942, the Acting Regional Director, becomes chairman and serving with him will be Dr. Paul A. Dodd, University of California, Los Angeles; Arthur C. Miller, Regional Attorney for the Federal Security Agency, San Francisco; Judge M. C. Sloss, San Francisco; and Marion R. Kirkwood, Dean of Law, Stanford University.

The four industry and four labor members of the former Advisory Council also became members of the Regional Board, and alternates to serve in cases of absence are to be appointed by the National Board. A quorum of the Regional War Labor Board will be six members in equal tripartite composition.

The Industry-Labor members are: **Industry**—George O. Bahrs, General Counsel, San Francisco Employers' Council; Keith Middleton, Vice President, Waterfront Employers Association of the Pacific Coast, Seattle, Washington; Paul Shoup, President Merchants and Manufacturers Association, Los Angeles; and Wm. B. Tyler, Vice President, California & Hawaiian Sugar Corp., San Francisco. **Labor**—E. E. Benedict, International Secretary, International Woodworkers of America, CIO, Portland, Oregon; D. V. Flanagan, Acting Western Representative, AFL, San Francisco; Lew Michener, Regional Director, United Automobile and Aircraft Workers of America, CIO, Los Angeles; and John F. Shelley, President, San Francisco Labor Council, AFL, San Francisco.

Still further streamlining the work of the War Labor Board, a Regional Wage Stabilization Director and a Director of a Disputes Division will be named.

The procedure under which a dispute case will be brought to the War Labor Board is the same as in the past.

ALTERATIONS FOR WAR WORKERS

Liberalization of the contract under which the Government leases private housing and buildings through its Homes Use Service program for conversion into additional accommodations for war workers and their families, is announced.

Designed to give still further benefits to property owners willing to cooperate, the lease alterations are expected to iron out difficulties encountered during the first few weeks of the program and permit the fullest use of existing structures in crowded areas.

Under the revised procedures, the Government will be obligated to complete any conversion project it starts, or to restore the building to its original condition. Moreover, if the property owner should desire further alterations than those deemed sufficient by the Government, he will be permitted to use his own funds for the purpose, participating in the same conversion project.

If the Government takes over mortgage payments on a property and the mortgage is paid up during the life of the lease, the Government from that date on will add the amount of the mortgage payment to the monthly rental it pays the property owner.

If the Government exercises its option to extend the lease beyond the basic seven-year period, during which conversion costs will have been amortized, the property owner will be paid the money which previously was used to amortize these costs.

The overall cost of conversion in the future will be limited to $2,500 per unit produced, instead of $400 per room—a modification which will permit many projects which would have to be rejected under the Government's original regulations. Reasonable economy and speed of construction will control exercise of this provision.

TIPS FROM A SUBCONTRACTOR

Two years ago, one of the many small, ambitious manufacturing firms in an Eastern city was grinding out aluminum frying pans, egg poachers, radio dials and control devices.

Today it has converted its machines 100 per cent to production of percussion caps, struts, flap hinges and other bits and pieces for aircraft.

Two years ago the two young owners of this firm were well satisfied with the progress made by their company, formed in 1937. But then came the collapse of the French and the beginning of a defense program.

It was clear that America would need tens of thousands of aircraft. Planes meant aluminum. Would there be enough aluminum for both radio devices and aircraft? That was the question they asked themselves one hot afternoon in their crowded office as they reviewed their orders. Would they get enough material to keep their score or so of workers employed?

As one said the other day, "We had two ideas that we talked over. One was that there wouldn't be enough aluminum for firms like ours and the other was that we ought to help our country."

They knew they could not make complete planes or tanks in their small plant, but they had not been making complete radios, either. They had been producing parts on a subcontract basis. Why not go after war work in the same manner? Checking lists of plane manufacturers in the East, they started out at once to see what business they could get. It wasn't easy. Subcontracts were not to be had for the asking. But by fall it was clear that their idea was a good one.

The defense program, which first seemed to threaten this small firm, has in fact meant a great increase in business. The 1941 production of $220,000 worth of war material was double the 1940 figure, which was largely civilian. At present there is a backlog of $300,000 in orders and the firm is ready to take on additional work.

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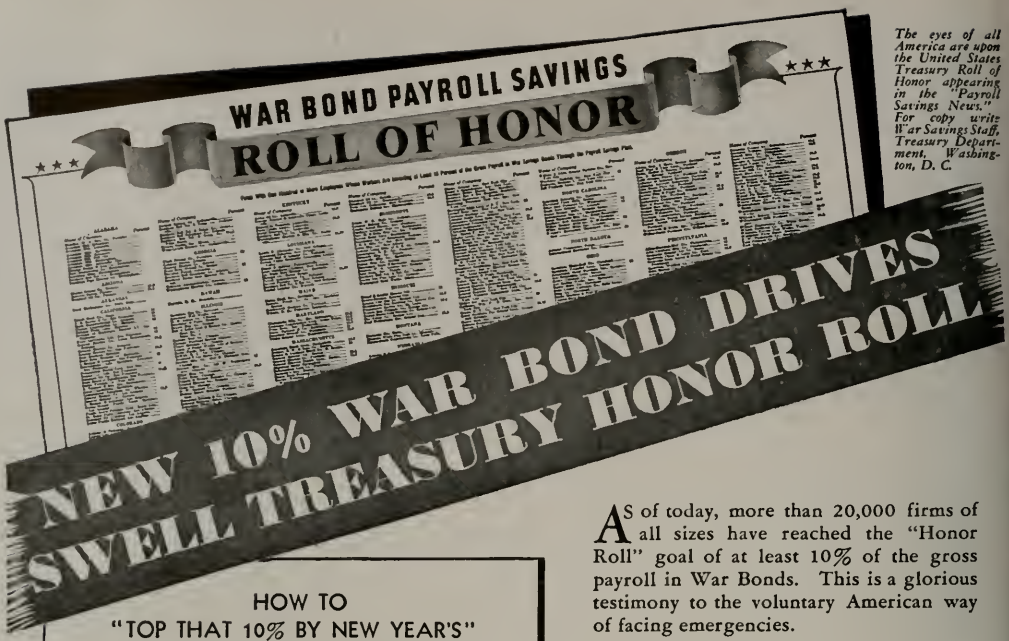

The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

AS of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

TIME IS SHORT. Our country is counting on you to—

"TOP THAT 10% BY NEW YEAR'S"

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save with War Savings Bonds

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THE ARCHITECT AND ENGINEER

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RUNNING FIRE — by MARK DANIELS

(Was Clem. Ambrose pinch hitting last month or hitting in the clinch? Perhaps it was not self abnegation that prompted him to say that "Running Fire" would cool to a mild smoke from his pen, for his words have scorched a few of our moderns. Watch the smoke.)

• *ARCHITECTURAL MORALE*

That's what Louis La Beaume calls it, and he may be right. If he is not it is about the only change I would suggest in his delightful article, in the January issue of "Technology Review," which he titles "The Decay of Architectural Morale." Of course if architecture can be moral or otherwise it can have a morale. Or can it? Anyhow, Mr. La Beaume has very definite ideas **about** the present day morale of the architects.

The burden of his song is that the morale of the architects is all shot, and they themselves did the shooting. They were becoming an institution; then they swelled with pride, the pride that goes before a fall. The fall took the form of a Pied Piper, a sort of new tune played by the so-called modernist and functionalist; we followed them and now look at us.

"The morale of the architectural profession is pretty bad," he says. "To speak bluntly it is pitiable," and, "the efficiency boys have got his (the architect's) goat, and he longs, how he longs, to be an engineer. He wants to change muses."

Of the pre-Piper period, when architects held a place in the community of men, the architect did not see himself as a "deletante or long-haired aesthete, but as a man of taste and sound, practical judgment." That was before we had learned to conceive a house as a mere machine for living, "before it bore a resemblance to a ship, a tank, or a body by Fisher."

Then, says Mr. La Beaume, we began to hear of Behrens & Mendelsohn, the Bauhaus group, and a very vocal French engineer, who called himself Le Corbusier "(the mean, old Pipers) and at last Frank Lloyd came out of his silence, and soon the pack was in full cry." Now, "the architect hangs his head in shame at the mention of beauty—We'd been thinking of beauty, of majesty or dignity—instead of only function. That was shattering. No wonder we were unnerved." And so came about our downfall.

Only the difficulty you might encounter in getting this copy of "Techology Review," justifies my presumption in trying to review Mr. La Beaume's article. If you do, it may step on your toes, but you'll like it and laugh over it.

• *BIRD DIARY*

7:05 a. m. Personally I don't believe a bit of that chirping about birds in Liberia flying backwards to keep the sand out of their eyes. When I finish breakfast I'm going to try it.

7:09 a. m. I knew it was all baloney. And that reminds me, I don't see what those robbins find so good in the worms they're always chirping about, especially that early one. Must be a hold-over from the days they had teeth.

7:11 a.m. Their song, if you call it that, is primitive to say the least.

7:12 a. m. The bigger they are, the worse the song. Peacocks, for instance. I've seen an ostrich but I've never heard one. All beef and no voice.

7:13 a. m. I'm waiting to see one of those Pteradactyls. I'll bet they're all size and no song, like the rest of those clumsy overgrown birds.

7:14 a. m. Just worked out another Opus. It goes like this: O-o'O-ooo — —

• *ONE CHARM*

It should be a relief to spend an evening with a good architectural journal and get away from war and its tightening tentacles. If you can, just stretch out before the fire and read about the pre-fabs in Sausalito and Vallejo, the new designs for workers' temporary dormitories, the housing plans for the Japs in Manzanar and similar interesting articles so free from war. To read about the absence of inspiration, majesty and beauty is really too depressing.

• *DIDO'S HOME*

The site of old Carthage and the ruins of what were elements of her grandeur a thousand years ago is but a short run out of Tunis. Baron Erlanger lived where he had a good view of the bay and two other villas that he owned and rented. When I was there he was engaged on a musical composition of length and finishing a four volume history of music, all of which probably made my intrusion more welcome for he had been working uninterruptedly for weeks. In turn, I brought away a memory of delight that has left an aura over my picture of the ruins of Carthage as a place of peaceful beauty. May it soon be so again.

• *MOTHER OF THE REPEATED MOTIF*

That's what history is. We find, in the history of architecture a precedent for every intelligent motif that has been employed in good architecture. We also find repetitions of similar movements. So why get all hot and hiccuppy over this belabored and tortured movement called "modern," or "functional," or "efficiency," or whatnot. It has happened before and will happen again.

From these movements, good sometimes, though not always, comes. They are usually the result of overdoing some particular style until architects revolt from the monotony of some school and its prescriptions, as happened, in a small way, right here in California, when we became nauseated with the dripping, drooling, drivel of jigsaw ornament on our mid-Victorians.

In the sixteenth century Baroque spread over Europe as a revolt from the renaissance rules that had been clamped on by Vignola, and who can say that it did not do some good. It was adopted by the Jesuits, largely as a sign that they were forward-looking after the defeat of the Reformation, and it resulted in that florid style that prevaded the Latin American ecclesiastical architecture that we go to paint and photograph. Bits of Roccoco, which is really Baroque with a little rouge, lip stick, and a lace 'kerchief up its sleeve, still are used by our interior decorators and some architects.

So why worry about this modern movement. Perhaps it, too, will be adopted by some religion or, perhaps, the Nazis. As a matter of fact, the Nazis seem to have adopted it already.

HOT JAZZ AT THE S. F. ART MUSEUM

Much has been written about the wartime concerts in the National Gallery at London, and as everyone knows, music is playing its part in the museums and galleries in this country. Indeed, museums, which only a few years ago operated within close limits, are now extending their activities in many ways. They confine themselves less to the visual arts, and incorporate those other activities which are called "the arts" into their regular programs.

But this kind of extension is not particularly new at the San Francisco Museum of Art. From its start the San Francisco Museum has included music, dances, and even literary discussions in its monthly programs. These ventures have proved to be interesting to a fairly wide public which has at all times encouraged them with polite applause. After all, each established "art" is a respectable affair, and what could be more logical and laudable than to have them all presented in an institution devoted to art?

Yet one would be short-sighted indeed to overlook the fact that certain arts flourish far beyond the walls of studios, museums, and concert halls, while the guardians and entrepreneurs of Culture leave them unconsidered. In fact, such activities are often so unclassified by our savants that the term "art" escapes them. One of these activities, perhaps the most popular art of Twentieth Century America, is jazz.

It would not surprise us that there are many connoisseurs of this art. A distinguished connoisseur is Mr. Rudi Blesh of San Francisco. Last month Mr. Blesh gave a notable lecture on "Hot Jazz and Its Origin" at the San Francisco Museum of Art. Mr. Blesh is now conducting a series of concerts of hot jazz in a kind of spring festival at the Museum. The first free concert was given by a selected group of musicians who made up an authentic ensemble of the original New Orleans type. Great pains are being taken to present an accurate picture of the early instrumental and vocal groups which have set the course of popular music. The series offers examples of ragtime, the blues, boogie-woogie, and other manifestations of jazz in its highest and purest forms. Salient features of jazz are briefly indicated by Rudi Blesh, but the balance of each program is made up of music. The musical personnel of these concerts is composed of many local men, and of several important figures imported for the occasion. The first concert was presented on the 14th, the next will be given Sunday afternoon, March 28, at 3:00 o'clock. There will be other concerts in April, including something special, which will be announced in good time.

"RHYTHM" AT THE SAN FRANCISCO MUSEUM OF ART *Photograph by Grant Duggins*

Hot jazz is improvised; it cannot be passed on by means of sheet music. It can be heard in two ways: by means of recordings and through actual presentation. Few men today can play the authentic forms of early jazz. The free concert series at the San Francisco Museum therefore offer a rare opportunity to experience the music which has formed the tradition of popular music in America.

* * * —D.T.M.

SOME GOOD MARCH SHOWINGS AT THE DE YOUNG MUSEUM

De Young Museum exhibitions on view during March lay emphasis on the decorative arts, with the "gentler" sex playing an important role. Three shows are being held over through the month: The Serigraph Prints by American Artists which the Contemporary Art Center is circulating are products of the silk screen process, a print medium which has only recently come into its own. The other two "hold-overs" are the excellent decorative art exhibits of 18th century art (the Meissen and Sevres porcelain) and the French art objects from the collection of Edward-Anthony Montgomery.

As far as new shows are concerned, here is where the women take over. A comprehensive exhibition of Graphic Art, including about thirty of the country's leading feminine print makers and sponsored by the National Association of Women Artists, is on view through the 28th. All processes including the "black and white" mediums will be displayed, the subject content being for the most part landscape and still life.

Encompassing practically the entire European continent are the exquisite laces in the collection of Mrs. Walter Pulitzer. This exhibit, Three Centuries of European Laces, opened March 5th, to be shown through the month.

Completing the March calendar is a most interesting showing of original work by the Golden Gate Weavers, a group of Bay Area women who for the past five years have devoted a great deal of time and effort toward the production of textiles which are usable in the home—upholstering, draperies, table linens and clothing. Since the advent of the war, these weavers have added their part by weaving stretcher blankets, afghans and rugs for Army and Navy hospitals. Also, from the proceeds of other articles sold, much needed military articles are purchased for the war effort.

In some cases using traditional patterns, in others digressing widely and experimenting with color and texture, the Golden Gate Weavers have, during their brief existence as a group, accomplished excellent results in this, one of the earliest of crafts. The exhibition of their work will remain through the month.

* * *

DICK TRACY TO LEAD COMIC STRIP SHOW AT DE YOUNG'S

The lowly comic strip is to come into its own when the De Young Museum devotes the walls of its galleries to favorites of the funnies, beginning the 15th of April. The American Institute of Graphic Arts, organizer of the show, has given it the name, "The Comic Strip: Its Ancient and Honorable Lineage and Present Significance," a somewhat exhausting title for a show starring Maggie and Jiggs, Mut and Jeff, the Little King, Katzenjammer Kids and Dick Tracy. However, that is just what the show is—exhaustive. For by tracing back to the earliest evidences of the comic character, character which, incidentally, is a direct line to the prehistoric writings of the caveman, the history of narrative illustration from the first crude beginnings to the latest adventures of Superman and Terry and the Pirates is vividly shown.

The comics are as traditional a part of the American scene as hot dogs and hamburgers. To "oldsters" who have wondered at the attraction of Boob McNutt and Barney Google to the perennial juveniles of the nation, this show should give the reason.

MERRY COMPANY Gasparo Traversi (ca. 1725-1769)

Gasparo Traversi, together with Giuseppe Bonito (whose painting "The Diligent Daughter and the Good-for-Nothing Son" was reproduced last month) was the chief genre painter of the Neapolitan School of the 18th century. Depicting the life of the common people was fashionable at that time among painters throughout Europe. But, while most of them seldom venture beyond a pleasant and amiable presentation of their subjects, Traversi enters more deeply into human analysis. He depicts types rather than individuals, and his humor is not free from sarcasm and even bitter malice. Combining masterly draftsmanship with a fine color sense, Traversi is one of the most interesting artistic personalities in the entire Italian 18th century. "Merry Company" is one of two of this master's paintings donated to the De Young Museum by the late Collis P. Huntington.

* * *

SPECIAL EXHIBITIONS AT DE YOUNG'S

Serigraph Prints, by American artists, lent by the Contemporary Arts Center through March.

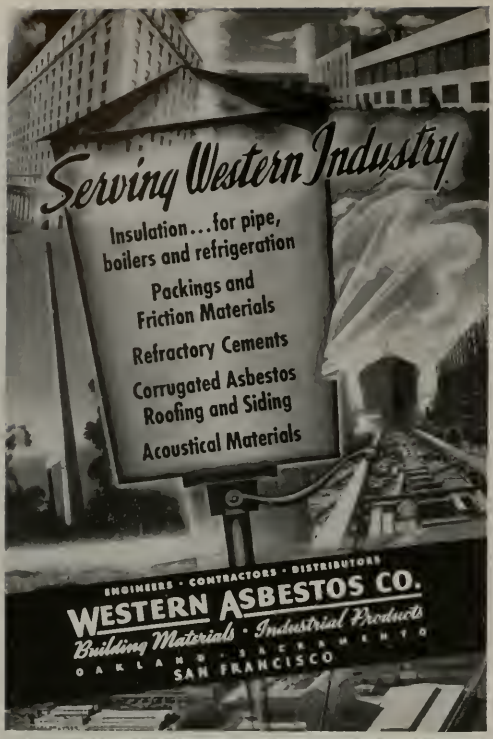
Graphic Art, by the National Association of Women Artists, to March 28th.

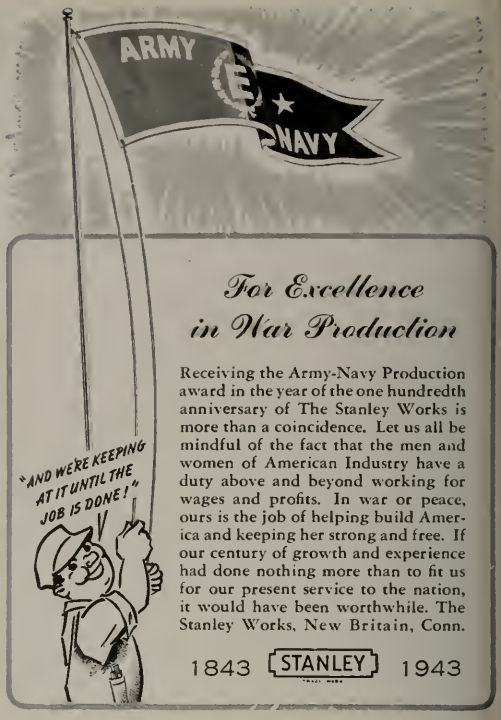
French 18th Century Art, from the collection of Edward-Anthony Montgomery, through March.

Three Centuries of European Laces, the collection of Mrs. Walter Pulitzer, through March.

Textiles, by the Golden Gate Weavers, through March.

Idealism and Naturalism in the Art of Ancient Greece, through March 10th. This is the second in a series of educational exhibitions reviewing the history of art.





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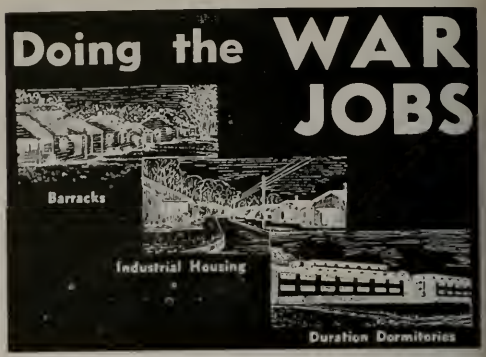

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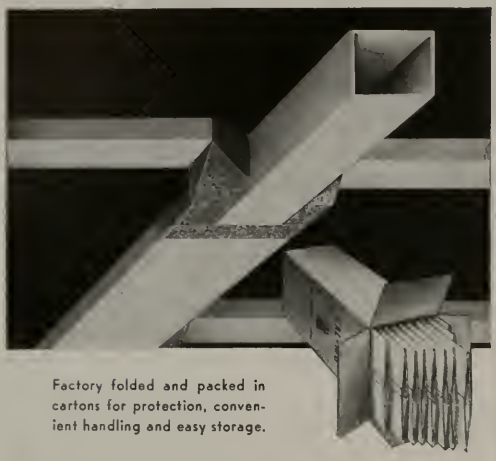

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Wings over

by H.G.MAAS

The photograph pictured above shows the take-off of inaugural flight of autogiro airmail service, from roof of Philadelphia Postoffice Building. Five daily round trips are made between the post office and Camden Airport, six miles distant, where connections are made with trunkline planes.

(Photo courtesy Eastern Air Lines)

Left — Loading the Flagship Michigan for transcontinental mail delivery.

(Photo courtesy American Airlines, Inc.)

GLOBE GIRDLING AIRWAYS

The United States News, weekly Washington, D.C. publication predicts "a big boom in air transportation, with expansion of air lines all over the world," that promises to become a reality soon after the war ends.

• • •

Many Americans are expecting that a large share in the world's expanded air transportation will fall to the United States. And that share is counted on to help swing this country into a postwar period of industrial and business activity.

• • •

Vice-President Wallace recently gave a preview of what's coming. He envisions a whole new network of world air lines. No place in the world will be more than 50 hours distant by air from any other place.

• • •

In the American Magazine, Mr. Wallace proposes the establishment of a United Nations Investment Corp. to operate a network of globe-circling airways after the war.

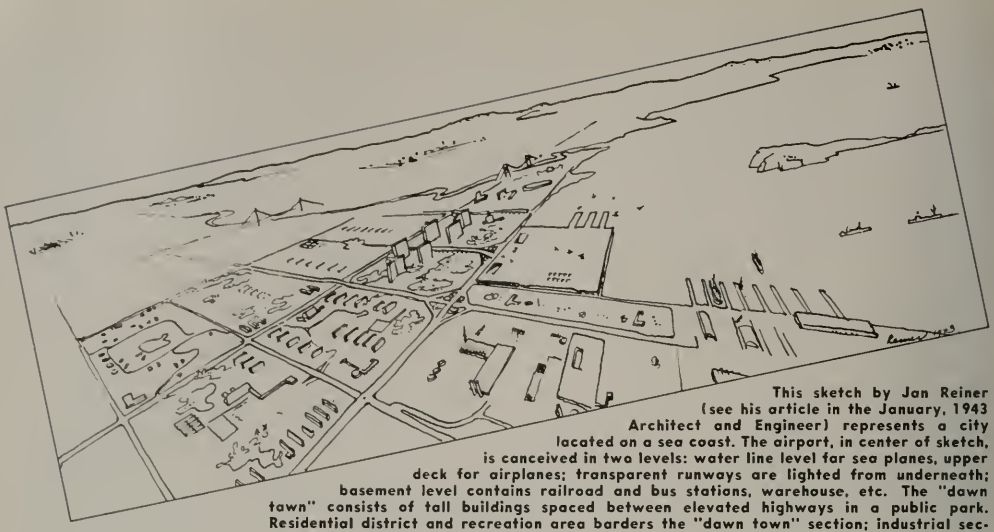
It does not require an aviation zealot to read in the signs of the times, portents of coming changes in the world's transportation. Changes that could affect the American scene as did the gradual supplanting of once-important forms of transportation; the covered wagon, the pony express, the stagecoach, the canal boat, the horse-drawn wagon, the horse-car, the carriage, and the sailing vessel. War censorship imposes vital restraints upon aviation information published, otherwise we might have more to say.

But trickling through censorship are encouraging official communiques; carefully worded releases like the report of satisfaction of the Senate Committee in session behind closed doors, investigating aircraft production. Like the reports that the Army is operating huge air freight movements to Russia's and China's life lines; to our valiant fighting men in Australia, Ireland, Britain, Iceland, and the Persian Gulf. Of considerable concern to architects and engineers right now is the subject of coming transportation changes likely to set aside many long-accepted principles of industrial building design and location. Residential and city planning of the future may be subjected to influences as strong as those accompanying the automobile age. Schoolhouse planning, too, is due for some radical changes.

GROWTH OF THE AIRPLANE INDUSTRY SECOND TO AUTOMOBILE

Expansion of the airplane industry may be second only to growth of the automobile. It can be told here, and without divulging a military secret, that the new planes are enlargements and developments of proved air liners originally built for the country's scheduled airways. Consolidated's 33-ton, four-engined flying boat Coronado is in mass production and ferrying men and supplies across both oceans. Variations of the Douglas DC-3, the Lockheed Lodestar, the Boeing Stratoliner, the Curtis Condor, and the Martin PBN-3 are among the heavyweights that are now, or soon will be flying soldiers, equipment, food, mail and supplies. Their courses are vital lines of supply and intercommunication for our military and naval forces all over the world.

The Army Ferrying Command reports that its record in crossing the Atlantic is 400 minutes: that's six hours and forty minutes! The pilot could have had luncheon in New York



This sketch by Jan Reiner (see his article in the January, 1943 Architect and Engineer) represents a city located on a sea coast. The airport, in center of sketch, is conceived in two levels: water line level for sea planes, upper deck for airplanes; transparent runways are lighted from underneath; basement level contains railroad and bus stations, warehouse, etc. The "dawn town" consists of tall buildings spaced between elevated highways in a public park. Residential district and recreation area borders the "dawn town" section; industrial section in foreground.

and dinner in London. The communique did not disclose the type of plane used. But, very likely, it was not one of the big freight and passenger planes which are probably flying the stratosphere from New York to London in twelve hours, many times a day. From Los Angeles to New York in eight and one-half hours; to any capital in the Western Hemisphere in sixteen hours, is the astounding pace of the giant Lockheed Constellation.

Compare this with the time of ocean freight vessels traveling at ten miles an hour in convoys and requiring twelve days, or longer, to cross the Atlantic. Compare those flights with the voyage of a crawling freighter requiring two months to make the 12,000 miles from New York to the Persian Gulf. With time out for repairs, loading and unloading, only two and a half round trips can be made each year! The airplane makes a complete round trip to the Persian Gulf in one week!

Startling statements are published on Glenn L. Martin's 70-ton flying boat Mars. (Its large-scale production to frustrate the U-boat is being considered.) This flying cargo ship, or battleship, can carry 150 men. Its range is secret, but Mr. Martin said it could strike anywhere in the world from our bases. Grover Loening, noted aviation engineer and consultant, in an address, stated that only 8300 similar super-aircraft could handle tonnage equal to the capacity of the entire merchant marine of the world; that construction costs of such swift aircraft per ton-mile of capacity are only 30 per cent higher than those of slow freight vessels.

125,000 PLANES 1943 GOAL

We can begin to identify the form of some of the shadows cast by coming events. Soon we shall see aviation development that only our great-grandchildren could have seen had there been no Hitler. From the President's speeches, we can guess that after the war we shall probably have around 300,000 young men trained as expert pilots; a million others, competent airplane mechanics. We shall probably have over 100,000 top-notch planes on hand; our aircraft manufacturing plants will beggar the imagination in their vast size. Production of planes equalled the 1942 quota of 5,000 a month and the current year's figure is over 10,000 a month. Aviation executives say that without doubt the 1943 goal of 125,000 planes will be attained.

Let us compare these "astronomical" figures with the 1940 statistics of the Civil Aeronautics

Authority. Prepare for a jolt. In the year 1940 the United States scheduled air lines operating over domestic and foreign routes employed a total of 2,278 pilots and co-pilots. They also had 5,409 mechanics and ground crewmen on their payrolls. They operated a combined total of 440 planes, about two days' present plane production. A quick comparison of these figures with those of current war air expansion will give you your own private peak into the future.

With a potential 300,000 expert pilots and a million airplane mechanics, these war-trained men, skilled in global flying, will probably start an invasion of their own. It will be an invasion of the freight and passenger business of the railroads, the motor trucks and busses, and the steamships. The extent of the invasion, with collateral changes in other businesses, will be influenced by: costs and profits, airplane engineering improvements, and the future policy of the Government.

Some cost figures, given me by the Industrial Research Division of the Lockheed Aircraft Corp., are enlightening. On giant new airplanes, which may not be named, they estimate costs in cargo operation at approximately 8 cents a ton-mile. Average overhead and operating charges, according to air line practice, are included. These planes could be used as "locomotives" to pull gliders, as gliders are used by the Germans in flying men and freight to Crete, North Africa, and the Russian front. With such gliders, costs could probably be cut to around 5 cents a ton-mile.

The rates of the railroads on carload freight are based on a rough average of 1 cent a ton-mile; 4 cents on less-than-carload freight. Steamship lines charge a rough average of half a cent a ton-mile.

You might say, "Well, that counts the airplane out as serious freight competition." But, does it? There would still be a vast field for trans-oceanic delivery twenty-five times as fast as ships and nine times as costly; for land freight transportation making deliveries in hours instead of days and only a little more costly than present less-than-carload rail rates. The present average Railway Express Agency rate is based roughly on 10 cents a ton-mile for rail-express deliveries, substantially higher than new air costs. Giant cargo planes could probably outbid railroads in handling all first class mail.

The ton-mile cost of the leading air lines for 1941 was over 50 cents, using smaller pre-war ships. If operating costs of 5 to 8 cents per ton-mile on the new air giants are correct, the sudden drop is prophetic. May we not expect even further drastic cuts? Engineering reasons for cost reductions are military secrets. It is permissible to explain that cost reductions derive in part from the increased **pay load** of the big planes.

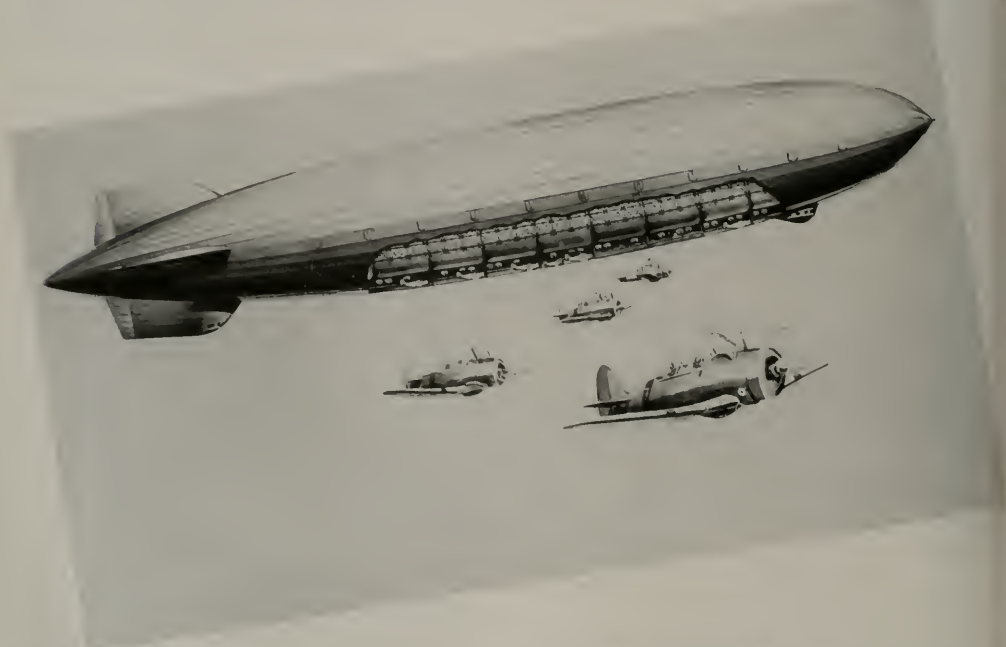
REAL COMPETITION FOR THE RAILROADS

The giant plane, with interior cabin space comparable to a fifteen-room house, can probably carry passengers cheaper than can the railroad and almost as cheap as the motor coach. It can compete with first class rates per passenger-mile charged by steamship lines. (Even with the smaller pre-war planes still used by American Airlines, Inc. for domestic civilian travel, its passenger rate from Los Angeles to New York is $149.95; the rate on the Santa Fe "Chief" is $141.24, including Pullman but without meals.)

The decade of the 1930s brought much airplane engineering progress. Safety records of scheduled air lines bettered those of passenger trains, private automobiles, and bus lines. Low-drag engine cowling, higher-lift wing sections, and 100-octane gasoline doubled loads and speeds. Great is the progress now being made by aviation research engineers profiting by use of planes in combat. Father Time is concentrating many normal years of aviation progress into a few war years.

Only time will disclose the future aviation policies of the Government which will determine rate of progress of the industry. Probably no one person is in a better position to give expert opinion on post-war aviation than Eddie Rickenbacker who has been quoted with offering this advice: The United States should plan now protection for post-war air transport to assure the Nation a ranking place in commercial aviation. Post-war aviation will be a thousand-fold its present operation, "he estimated, adding that "Air transport will be used for all travel beyond a distance of 100 miles, for all

CLOSE-UP OF AIRSHIP "MACON"
Long ranging rigid airships having ample carrying capacity, may also take part in post-war transportation, offering more speed than the steamship, more comfort than the airplane, and being able to cover distances impossible to the plane.



A device used in the Akron and the Macan of housing airplanes aboard ship, landing or releasing them without slowing up, may also be utilized in post-war travel to pick up or discharge passengers at intermediate points without a landing. Note the hook on the top of the plane which engages the trapeze of the airship, reversing the process of the airplane carrier's planes which have a retractable hook on the bottom of the plane.

first class mail and for light express." Rickenbacker has suggested that the Treasury Department or some Government agency provide capital now to enable American aviation in the future to "match anything other countries undertake."

Upon the architect and construction engineer, the air age will make large demands. But, even with the war impetus, traffic conversion to air doubtless will be gradual. Horses were still common on the streets long after the arrival of the automobile age. Some industries will feel the impact of air cargo before others. But those receiving and shipping by plane will no longer be able to remain in the congested cities. They will have to be near landing fields for delivery and pick-up by gliders—the future box car of the air. Private landing fields, and fields used in common with other industries can be expected. Since the plane requires no costly tracks or road, location of industry may be very flexible when served by air. Inaccessible areas with cheap labor and power will be made available; present industrial decentralization will continue rapidly.

INTERNATIONAL AIRPORTS WITH HUGE WAREHOUSES

Great new international airports with warehouse facilities will spring up in locations determined by future developments. Since a good natural harbor means nothing to a plane, other requirements for international airport locations will decide their selection. Among them are proximity to production centers and to the great circle routes that will be flown by air traffic: shortened global courses to Europe, Asia, and South America, impassable to ocean shipping because of ice or land areas. Mountains, seas, jungles, deserts, ice, are no barriers to a plane. The sea plane needs only a shallow lagoon for landing; the land plane, no water at all. Much new construction will be needed for these airports and warehouses.

It will be inevitable for hotels to be built near the international airports of the future, to accommodate world travelers of many races. Business of hotels in serving travelers by air may be as important as that of hotels now serving motorists.

Building design will probably provide for landing of autogyros on roofs. Between the roofs of the New York and Philadelphia Post Offices, Eastern Airlines operated regular autogyro mail delivery. Likewise, in the air age, deliveries and persons arriving by autogyro, will probably be received on specially designed roofs. The autogyro looks like a big electric fan and can poise itself over one spot like a humming bird. It will be the airplane of congested cities, probably supplanting bus lines and street cars that serve the suburbs.

Developments in autogyros are enshrouded in military secrecy. I do not feel that I am unduly enthusiastic in offering the forecast that an important post-war use for mushroomed aviation factories will be in production of autogyros at prices comparable to those of the medium-priced automobile of today. Changes in the places where men work and in the speed they travel to their work, imply changes in where they will live. The trend will doubtless be farther than ever away from the big, congested city. Entirely new communities will spring up, probably small decentralized, but requiring all the service, merchandising, and utility enterprises of present communities. Homes may also be built in secluded natural beauty spots: in the mountains, at the seashore, in the woods, on small farms—wherever the family autogyro can be landed. Autogyro bus lines may serve those commuting to industrial plants and cities. New industrial areas in hitherto inaccessible spots would require small-home communities for medium or low-income groups. Design of such homes will present interesting architectural possibilities.

ARCHITECT FORESEES MANY CHANGES

In addition to interviewing railway and aviation executives to secure factual data for a discussion of the possible impact of aviation on architecture, it was my privilege to talk it over with Mr. John C. Austin, well known Los Angeles architect. He, himself, has lived through changes in the American scene brought by passing of older forms of transportation and coming of new. In addition to taking his part as a practicing architect and civic leader, in the development of Los Angeles from a town of 60,000 to its present size, he has, himself, seen the sailing vessel give way to the steamer,

the horse and buggy to the automobile. He can speak with real authority of the effects of transportation changes upon architecture and construction.

Mr. Austin—a man who often flies to save business time—enthusiastically envisions the opportunities for service to mankind that the air age will bring to the architect. As new manufacturing and population centers are created—airports their centers—Mr. Austin feels that the architect must be called in to contribute his skill and experience, not only as a designer of building, but as a city planner. In the new communities, the result of airplanes becoming as common as automobiles, old conditions must not be made to fit the new facilities—the costly blunder of the period now ending with World War II.

Since the airplane makes it possible for man to enjoy much more of God's great sunshine and fresh air, the new aviation-created communities must have careful, well integrated planning. There must be shopping centers; manufacturing areas; spaces for utilities, churches, parks, playgrounds; freeways for land traffic; parking areas for planes and automobiles; and railway stations, tracks, and yards for heavier freight that probably will always go by rail. There must be protection against the sordid overcrowding forced by greed-motivated real estate operators bent upon pyramiding real estate values. When a community reaches a certain size, no more people should be crowded into it to encroach upon each other's human dignity and enjoyment of Nature's gifts. The swift transportation of the plane no longer makes necessary or excuses such living conditions.

To compete with more livable new communities, Mr. Austin thinks that obsolete centers of population designed for the horse and buggy period, must do a great deal of modernizing. Present belated planning of cities, putting patches on garments badly designed and worn out, will continue from necessity. Efforts to provide free-ways for surface traffic; parking, unloading, and landing places for automobiles and autogyros; slum clearances; and other efforts at costly city planning of older cities already built up, must go on. Older buildings, he says, can be remodeled to provide roofs for landing autogyros, since load requirements, in his opinion would not preclude such possibilities in many cases. There will be a prodigious amount of construction work required and architects should be extremely busy.

Mr. Austin feels that the effect of the air age on architectural design is especially difficult to predict. He reminds us that Gothic, Renaissance, and so-called Modern, are styles developed by the inventions of their eras. He recalls Ruskin's advice, "Ornament construction but never construct ornament," and hopes that it will be remembered. When the war is over we shall have millions of young men thoroughly aviation-minded, trained in flying, and keenly aware of its advantages. To house the private planes of the millions who will, themselves, be flying, and to design the homes of persons flying for pleasure and to their work, will indeed mean some new ventures to architecture and engineering.

Why bother about the future of architecture and construction, or the future of any civilian activity, you may ask, while we are in the midst of a grim war for survival? A war we **could** lose if we do not, each one of us, give our country all-out assistance. We look to the future for just this reason: We know what we are fighting for is worth our sacrifices; we can fight with stouter hearts if we give some thought to what the world **could be,** what it probably **will be,** and what we shall have to **make it** when the present tragic war is won. President Roosevelt and Prime Minister Churchill were thinking along this line when they formulated the Atlantic Charter with its four freedoms.

EDITOR'S NOTE: *All research data and statements in connection with Mr. Maas' article have been checked by Robert Nibley, Manager, Industrial Research Department, Lockheed Aircraft Corp., Burbank, California; John A. Smith, Superintendent Air Mail, Air Express and Air Freight, American Airlines, Inc., Los Angeles; and Stuart Faulkner, American Airlines, Inc.*

The Railway Express Agency cooperated through its Chief Engineer, C. G. Peterson of its New York office, and General Manager B. L. Crawford, Los Angeles.

In fact, all information has been painstakingly authenticated. Some of the data is available for publication for the first time.

The Code of Wartime Practices for the American Press has been carefully observed.

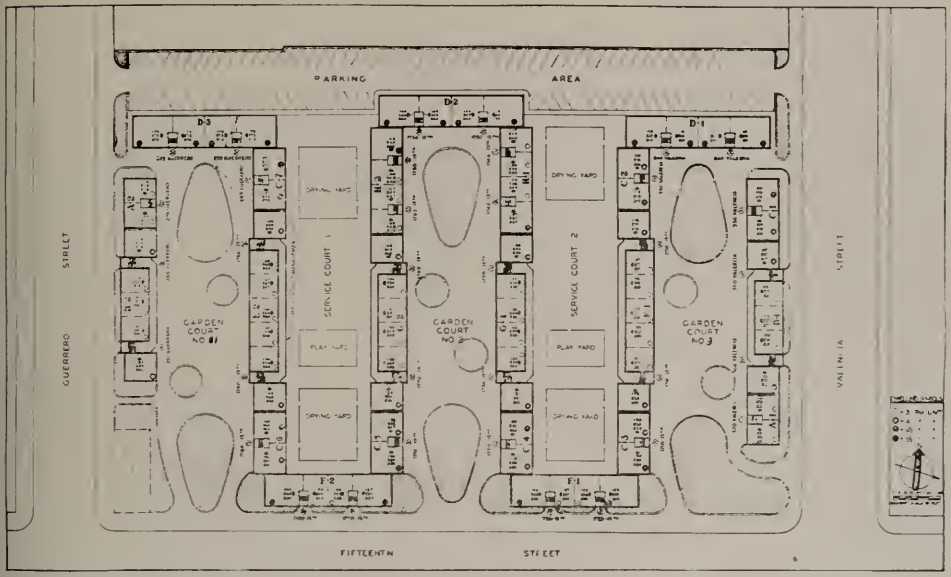
Photo by A. Cobbledick

One of the brick terraced courts in Valencia Gardens, latest war housing project to be completed in San Francisco

Architects: William W. Wurster and Harry A. Thomsen, Jr.

VALENCIA STREET FRONTAGE, LOOKING TOWARDS FIFTEENTH STREET, SAN FRANCISCO
Note parking area at the right

VALENCIA AND FIFTEENTH STREETS, SHOWING LANDSCAPING AND ARRANGEMENT OF COURTS



PLOT PLAN OF VALENCIA GARDENS The site was formerly the San Francisco baseball grounds

VALENCIA GARDENS—A PRELUDE TO MASS HOUSING

by SALLY CARRIGHAR

On the pre-war day when plans for San Francisco's Valencia Gardens project were begun, it seemed inspiring and dramatic to be putting a roof over 246 families. Now the housing agencies take in their stride single commissions for 3,000 dwelling units. Valencia Gardens is in a minor class, both as to size and cost.

But the project is not minor in importance. Although of permanent, not "duration" construction, and originally intended to house a group with incomes lower than those of war workers, Valencia Gardens furnishes many answers to problems that arise in war housing. Even as few as 246 units constitute mass housing, and economy was a large factor in putting up Valencia, as it is in the present projects. The architects of Valencia Gardens had one advantage that no architect has today: they had plenty of time. They were able to let their imaginations play for weeks with situations that builders today must grasp in hours. Naturally a richer comprehension resulted, with consequences that any architect is free to study.

Does anyone consider it anything but a misfortune, fundamentally, to share one's roof with 3,000, or 245, other families? Such crowding seems necessary under modern conditions, but the discomfort is modified by the way the situation is accepted. Complete acceptance means putting up undifferentiated rows or blocks of dwelling units, with the only distinguishing feature the number on the door. At the other happier extreme is Valencia Gardens, whose architects did not "accept" mass living at all. They put unlimited and ingenious effort into creating the effect of individuality for

Valencia's tenants, and did it within the requirements of minimum cost. They found many devices for evoking an illusion of separateness, ranging from the plot plan to the color of the living room walls.

The plot is a rectangle, with its long-side frontage on Fifteenth Street. The rectangle is divided laterally by six blocks of apartments, forming five courts. Every other one is an entrance court, open on the street side. Alternating are utility courts, open on the rear towards the parking strip. Although the courts are relatively spacious, they are intimate enough to give the feeling of a small neighborhood. No tenant ever gets a view of the entire project, either from a window or in approaching his door.

GLASS BRICKS LOOSE DECORATIVE VALUE

There are no long, straight facades. In each lateral building, one block of apartments is faced with balconies, and offset so that the outer edge of the balconies is on a line with the exterior walls of the adjoining sections. Areaways through these lateral buildings, leading from court to court, provide breaks, as do the panels of glass bricks above the areaways. The glass bricks are purely functional, serving to lighten the stairways, say the architects, who consider that cheap uses have deprived glass bricks of decorative value. Those at Valencia do relieve the weight of the concrete walls, however, and probably few of the tenants will squirm because these bricks have become characteristic of cocktail bars and cat and dog hospitals.

There will be comment on the fact that the concrete has been given colored brush coats in a high key, and that several colors have been used, so that buildings around a court include facades in terra cotta, yellow, blue-green, and neutral. Some critics may be offended by the unconventionality of this arrangement, but perhaps they would have chosen it if they could have compared it with the monotony of encircling concrete walls in a single shade. Although the courts have been kept small, intentionally, and the surrounding buildings are three stories high, there is no effect of being imprisoned because of the variety of the outlook. The areas of different color are tied together with a base strip of dark green which also serves to hide smudging.

No more than six apartments are served by any stairway or balcony-corridor—another scheme for breaking up the effect of mass. And in each of these groups of six, the interior plaster walls of the living rooms are painted differently, so that neighbors will not enter another's apartment and gain the impression that it is identical with their own. The colors of these interior walls are pleasingly harmonized with the exteriors, being in softer tones of green, yellow, apricot, and neutral.

The balconies were planned primarily for circulation and are not wide enough to provide much chance for outdoor living. But vertical fins do furnish a degree of privacy. Another small but thoughful plan for destroying an institution atmosphere was the placing of the management offices in a remote and inconspicuous part of the project.

These features of Valencia Gardens are likely to ease the strain of mass living to a very real extent. Yet their value would be classed as intangible. Other, more practical problems of dwellings in multiple unilts have also been met in interesting ways.

STRICTLY A WAR PROJECT FOR THE MOMENT

It should be made clear that Valencia Gardens represents an original attempt at slum-clearance. It is a subsidized project; that is, with the rents based on the tenants' ability to pay. The apartments are being let now on that basis, but for the present only to war workers or the families of service men—not to the San Franciscans whose homes were demolished to make room for the project. Rents, including utilities, are figured at 20 per cent of the income of a family with two children or less; 16-2 3 per cent of the income of larger families. The size of the apartment assigned to a family depends solely on the number who will live in it, not on what is paid for it.

The plot approximates five acres, with the buildings occupying about one-fourth of the area. The 246 units contain 937$\frac{1}{2}$ rooms. The largest apartments have 5$\frac{1}{2}$ rooms, meaning a living room, 3 bedrooms, bath, and a large kitchen called 1$\frac{1}{2}$ rooms because presumably there is space for a dining table in it. No dining space is divided off, however.

COURT VIEW OF VALENCIA GARDENS, LOOKING EAST

Since the land cost $230,000 and the general contract was let for $845,000, the cost per room, considering extras, has come to a little over $1,000.

Fireproof reinforced concrete construction was specified; also minimum dimensions for the rooms. Jugging these elements and their limited budget adroitly, the architects have designed highly livable quarters. The arrangement of rooms in individual units has the suggestion of a bungalow rather than an apartment. Each unit has exposures on two sides. Neither bath nor kitchen is uncomfortably small, and each bedroom can well accommodate two. There is a closet for each bedroom, recessed shelves for linens, another recess for storing broom, dust mop, etc., and also there is a coat closet with hat compartments.

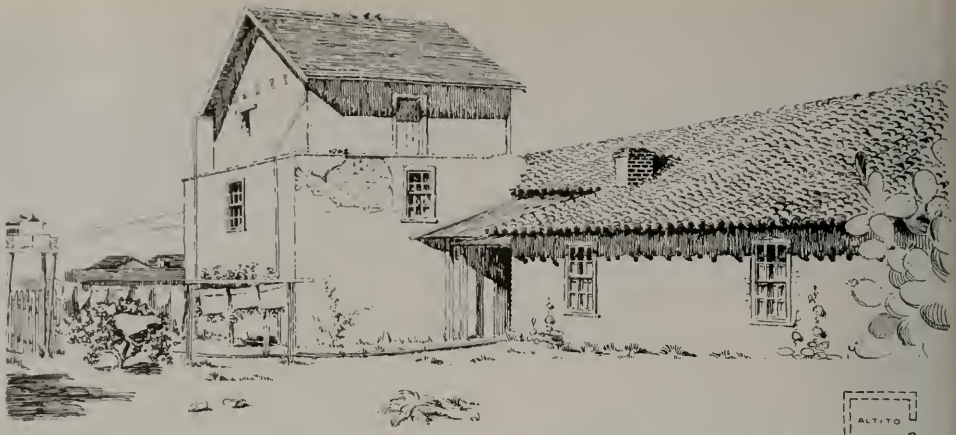
STREAMLINED LIVING FOR ADAPTABLE TENANTS

An unconventional omission is the lack of back entrances. Nor is there any closet or pantry off the kitchen. Where will tenants put drying umbrellas, roller skates, empty milk bottles, the magazines for the Red Cross—all the oddments, admittedly not beautiful, that usually find a harbor on the back porch? It is explained that in the Potrero project, also lacking back entrances, tenants "just get rid of such things." If literally true, the tenants show remarkable adaptability. At best, one's first weeks in these projects must be a strenuous lesson in streamlined living.

A pantry would solve the problem, but there seems not even adequate cupboard space in the Valencia kitchens. The protest that "A tenant can't expect everything at these rents" is no answer, because sufficient space for dishes and pans is considered essential by every class of tenant, and most Valencia housewives probably would trade the floor-length windows in the living room (however reluctantly) for additional shelving in the kitchen. A four-burner-and-oven stove is provided. There is no refrigeration, but the cooler is ventilated, with wire shelves, and for most families is no doubt large enough.

In two other details the apartments fail of being practical. The asphalt tile floors are **black** (red in bath and kitchen); let any housewife visualize what they will look like after the children have streamed in from play. What

(Turn to Page 32)



"ALTITO" OF DE LA GUERRA ADOBE
Pen and Ink Drawing by Clarence Cullimore, Architect.

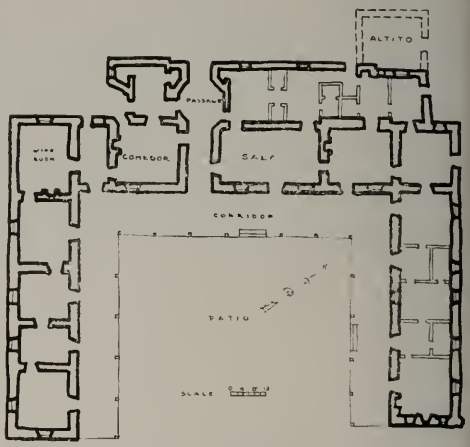
HISTORIC DE LA GUERRA ADOBE

by CLARENCE CULLIMORE

Adobe architecture belongs to the landscape and the people of California. It grew out of her red clay hills and black bottom lands. These adobes, springing from the soil, appropriate to the climate and colored by the background of early Spanish dons, flowered in the picturesque houses of those first settlers.

In the quaint, sleepy, little village of Santa Barbara, about thirty-five years after the founding of its Presidio Real, the de la Guerra house was begun. Don Jose Antonio Julian de la Guerra y Noreiga is, as is indicated by the double surname, descended from the de la Guerra line on his paternal side and maternally from the Noreiga family. As both are said to be of noble tradition, Don Jose was indeed a "blue blood." He first came to Santa Barbara as a lieutenant stationed at the presidio. Through his marriage to Dona Maria, the only daughter of the presidio's third comandante, Raimundo Carrillo, Don Jose founded in California, one of the oldest and most prominent families of the state. A modern scion of the Carrillo strain is the popular moving-picture artist, Leo Carrillo.

The de la Guerra home, the foremost of the historic old adobe houses in Santa Barbara, was begun in about 1819, but was not entirely completed until 1826. Its hospitable walls were the scene of many social, military, and political gatherings that have played a part in the early history of California. It still holds the memory of the beloved comandante and his kindly, charming wife, who won the esteem of all who knew her. Here, Richard Henry Dana relates, in "Two Years Before the Mast," that affairs of state and events of social gaiety took place.



FLOOR PLAN, CASA DE LA GUERRA

The floor plan was built around three sides of an ample patio, after the Spanish and Mexican mode typical of many of Southern California's early adobes. Although part of its timber portions were brought from the north, others were constructed of California sycamore native to the Santa Barbara area. Its tile roof

THE DE LA GUERRA ADOBE IN 1890
(Covered with clapboards)

was one of the few, outside of the mission, in the channel village. Most of the houses were small and flat-roofed, with layers of kelp and earth placed on top. As a cap for these flat roofs, the asphalt seepage from Goleta was made use of. The asphalt was boiled with sand and then spread on while hot, affording a good protection from the rain.

More than fifty years ago, the walls of this adobe were covered with clapboards. As a matter of protection against the weather, many adobes were treated in this manner. In 1919, the original porches were widened and the posts replaced. The simplicity and genuine earthy quality of this early structure has been retained by its modern restorers.

The late James Osborn Craig and Carleton M. Winslow, architect, were the builders responsible for the restoration.

The roof which was once carried on brick piers, twenty inches square in cross-section, and later by built-up, milled, square, wooden columns, is now supported by massive, solid, wooden posts which prove more stable under earthquake conditions.

A part of the building that faced the rear yard has been raised. This was the altito, a three-story, tower-like portion of the structure. The accompanying sketch shows this element of the building as it appeared in the middle of the last century. The altito then stood at the easterly corner of the present inner patio, a few yards from "El Paseo" restaurant and the art shops that comprise "A street in Spain." It was on the second floor of this tower that Don Jose de la Guerra housed his library. On the third floor he kept his money and accounts.

THE DE LA GUERRA ADOBE
(Northwest Side as it appears today)

There are stories told about his sons, who on occasion felt it necessary to augment their allowances with coins from his money chest, obtaining them by the use of a bamboo pole inserted through a crack in the door. The pole was equipped with a pad covered with tar attached to its far end. The coins adhered readily to the sticky substance while withdrawn from the chest and through the crack.

Aside from an historic aura and fitness to the Santa Barbara environment, this adobe's long service in supplying the domestic and community needs of the social orders through which it has passed give to it a real claim to distinction. Its simplicity of line and an absence of unnecessary ornamentation combine with a genuineness that is intrinsic to adobe construction to make the old de la Guerra homestead one of the most prized heirlooms of early California.

POST-WAR PLANNING AS IT AFFECTS

by TALBOT F. HAMLIN, A.I.A.*

Today all planning is merely a means to an end. From the human point of view it is the end which is important rather than the means, and I believe I am justified in thinking that the decisions we make in the next few years with regard to planning matters are going to determine irrevocably the ends and aims of American life. If we want democracy we must plan for it, and democracy of necessity must be economic as well as political.

There are any number of questions, affecting the actual physical planning of our land, which cry out for answers in terms of this fact. What kind of cities and towns and countryside do we want? Are we to plan a world made for speculators—or for creators and producers? Are we to produce for the many—or for the few? Are we developing cities to sell—or to live in? Housing to shelter robots—or individual human beings? What is to be the deciding criterion? Is it to be money and profit alone—or is it to be the growing enrichment of human consciousness?

These may seem vague questions pertaining perhaps more to the pulpit than to the planner's office, and yet the design of every building, every zoning ordinance, every arrangement of traffic or transit is going to be affected by our answers to these questions. We cannot escape them. We may answer them ignorantly or carelessly, but the plans we make will embody our answers, and the communities of the future will make the quality of these answers clear. Our children will know, even if we don't, which way we decided.

And, if we do not make these answers definitely, there are lots of agencies which will make them for us. There are hundreds of pressure groups, the country over, who know what they want and are planning to get it. There are associations of financiers and businessmen interested in profits. There are born speculators who are willing to sacrifice health and security for beauty for the sake of **perhaps** making a profit, and in their effort willing to force this sacrifice of efficiency and beauty and pleasantness upon the rest of the world. There are misled real estate boards who can see no other answer to the economics of land and its use than the old mad squabbles which brought with them the bankruptcies and the confusion of the blight of 1929.

All of these people realize the v a l u e of planning, if the planning is **their** way. Unless those who believe that planning has a higher end than power for a few, and life a nobler purpose than luxury for a few, combine to see that the future is planned **their** way, they will find rapidly enough that the opportunity for improvement has gone and the old reactionary forces have seized the power of planning to force American life back into a still wilder, more intense, more dangerous and devastating competition on the one hand, or else into that industrial feudalism—in which the many not only work for, but seemingly exist for, the few—which is the apparent aim of many industrial bodies.

But planning, many say, is itself undemocratic—dangerous to the individual, dangerous to initiative. These people correlate planning with laissez-faire economy, blind to the fact that in our own day the dangers of the individual consciouness and to individual initiative come less from governmental regimentation than from economic pressures. Monotony of work and squalor of surroundings are not the best schools for rich individuality. In the old days of an expanding economy, when all the West was there for the discontented to open, the frontier was a school of self-respect and rich living. Today we have as our representatives of the frontier life the city bum and the hobo. It was not government, or planning by government, w h i c h forced the change.

I should say, therefore, that governmental planning to prevent these tragedies, or to

* Part of a lecture delivered before the Detroit Chapter, A. I. A. Mr. Hamlin is librarian at Columbia University.

mitigate them, is a service to democracy rather than the reverse, even if it entails restrictions—even severe restrictions—on certain types of economic effort.

The planning we are interested in, if we accept this premise, is the physical planning of cities and towns. It involves, first of all, an evaluation of our present achievements. What really are our towns like?

May I sketch a typical town? It is a small town, with one or two little industries, perhaps a market center for the surrounding countryside. The town first declares itself to us, as we approach it, by signboards flanking the highway or the railroad, telling us in enormous flaring letters where to eat or sleep or buy goods. As we get closer the signs multiply, and all sorts of sheds and ugly half-temporary structures line the way between — hot-dog stands, garages, and service stations, innocent usually of even a half hearted effort at design. At one side a junk yard is filled with a chaotic confusion of old rusting automobile bodies, fenders, wheels. Across the way the ruins of a fine old mansion stand, with broken, hanging blinds and a front yard filled with tin cans and shattered bottles and weeds. An old car drawn up at the steps, newspapers wadded into broken panes, and raw new boards nailed across an old leak reveal that the house is still inhabited—probably by several families.

We come to Main Street, wide, treeless, asphalted, lined solid on each side by cars parked diagonally, their rounded tops glittering like the carapaces of vast beetles. The buildings to right and left vary from one to five stories in height. They are of all vintages, frowning, bracketed cornices and large, widely spaced, arched windows proclaim the solemn dignity of the late 1850's. Yellow brick structures, soiled and streaked, decorated with "Renaissance" terra cotta, date from the early years of this country. Red brick pseudo-Colonial and "modernistic" white terra cotta eye each other suspiciously in their arrogant pride of newness. Near the center of town, where the latest standardized "Colonial" post office is built, the fronts of two movie theatres, gaudy with posters and gilt, yawn with gaping maws to swallow their periodic crowds. Wherever a building shoulders itself above its neighbors, its sides are plastered with signs in order that he who runs may read where to buy this, that, or the other—radios, automobiles, improved lots, clothing, food, or houses.

To the right, down by the hurrying river and the mills, lie the slums—shacks and old houses, subdivided and crowded and dingy, unkempt, confused, with the dreary drabness which Burchfield has so poignantly painted. On the hillside to the left live those who are better off, in houses aggressively neat, which in style and form and color fight each other as relentlessly as the shops downtown. The newest and biggest are all supposedly Colonial, as though an unconscious protest against the sprawling jumble of the town life could find its only expression in a tired antiquarianism.

Is this the best America can do? The picture is, I believe not overdrawn. Almost all of you must be thinking of opposite examples. Is this the best school of rich living which our democracy can furnish?

Or take the bigger cities: take Detroit. In all humility I realize that I am an outsider, knowing Detroit only as a visitor. Yet Detroit is a particularly appropriate example, for more than any other city in America Detroit represents the triumph of modern industrialism. It was here that mass production achieved its first noteworthy successes; here that mass production, based on a magnificent industry, has dictated the development for a third of a century. Here if anywhere should the needs of the future be clearest and the qualities of today most strikingly presented.

What do I as a visitor find? Is it too much to say that the first impression is confusion?

Parking lots and vacant lots surround buildings which cost millions; skyscrapers shoulder themselves above their neighbors apparently without regard for them; areas of down-at-heels, characterless dwellings—almost slums—abut the most expensive and lavish structures. There are, to be sure, remnants of the great old city plan developed by Judge Woodward a hundred and thirty-five years ago—a plan perhaps absurd functionally in its emphasis on radiating lines and polygons, but at least a plan with some system. These remnants are the one element of charm in the city of today.

Outside this center I find the same jumble extending for miles, until it finally ravels off at the edges, with shacks, ill-considered and ugly real estate developments, and plain litter, into the surrounding farmland. Factories group themselves, apparently accidentally, here and there. In it all there is scarcely anything that could be called a real neighborhood, that is, an area with some pattern of centralized culture expressed in an adequate combination of recreational, educational, and business buildings. There is a vast sense of homelessness, of characterlessness, about it. One might almost say that triumphant modern industry has, in Detroit, succeeded in housing its employees less well and certainly less beautifully than did the industrial tycoons of Lawrence, Massachusetts, or Manchester, New Hampshire, over a century ago.

Nor are the employees or the poor the only sufferers. Where can the professional man or the employer find in this amorphous mass a real home? If he lives in Detroit proper, where can he or his children go for recreation, for pleasant views, for rest from the surrounding monotony? Belle Isle Park is beautiful, with its great trees and playground and the river slipping by, but for much of Detroit it is miles away—too far for any but exceptional use. No wonder those who can afford it have gone outside, to build their homes among the ridges and valleys and lakes of Bloomfield Hills or along the shore of Grosse Pointe. In doing so they have lost touch with the city on which they live, unconscious of its problems and its possibilities.

Have I been unjust? It is not Detroit alone that I have pictured here. It is any number of industrial cities throughout our country. The results are apparent to all who read the newspapers. Intensification of race feeling, leading even to riots (was there not one here?); violence in industrial labor relationships; individual crime—these are but some of the effects of bad planning or lack of planning. For chaos breeds barbarism.

Fortunately Detroit has now a brilliant and effective City Planning Commission. The future can be bright if the Commission receives the support it deserves. Too often in American history the City Plan Commissions has been one of almost constant struggle for existence. They are kept to the most routine tasks, starved with insufficient appropriations, frustrated in their plans because of the lack of popular support. That has been the recent history in New York, for example, but it is true in many other places.

As architects, it seems to me that all of us must do everything we can to rally support to City Plan Commissions, and be in the forefront of the movement to educate the people in the enormous potentialities for good which such a Commission, adequately staffed and properly supported, may produce. The record of local chapters of the American Institute of Architects has not been too brilliant in this respect. Nor have individual architects, it seems to me, realized sufficiently the opportunity to assist in the great and necessary work of planning, not only by their own technical contributions, but also by their knowing, sympathetic, and disinterested support of forward-looking plans and devoted Commissions.

Not long ago as a speaker here told you, I believe, that architects were not prepared to plan the cities of the future. I must take issue with him on almost every point. If architects are not prepared to take the leadership in planning, who is?—the engineer, the economist, the sociologist, the landscape architect? All of these have their contributions to make; but the good architect is, above all others, by training and experience, the man whose work partakes of something of the work of all these specialists. Like the engineer, he must think

in structure and the possible mechanical expressions of his ideal. Like the economist, he must know something of values, of money and credit, and their ways and limitations. Like the sociologist, he must know something about the way people live and work. Like the landscape architect, he should be able to see things in terms of site, in a large way.

And the architect's contribution is especially necessary in this whole planning problem. For the architect is trained to create aesthetically at the same time he creates in material things, and the aesthetic element is, I deem it, the element in city planning which today tends most frequently to underestimate. In our reaction against the "City Beautiful" conceptions of many of the American city planning projects of 1908 to 1914, we have attempted perhaps to go too far the other way. We have come to realize that no city development is possible without a rigidly realistic framework developing into an organic and living whole. We have come to see that beauty in a city must be the result of all sorts of other planning adequacies; must flower from a consideration of traffic and transit, of decent housing, adequate water supply and sewage disposal schemes; and cannot be created out of confusion merely by waving a magic wand. We have come to see that piecemeal beautifications are often merely temporary and fall rapidly into undistinguished decay, and that no monumental civic center or great avenue can be more than an incident in the totality of effect of a great city.

All of this is, of course, a tremendous advance and will, I hope, prevent our plans from ever becoming the mere pretty pictures of what the past produced. We know now that the old civic center conceptions were often ridiculously incongruous and impossible from any traffic point of view, and that the great plazas and radiating streets which characterized some of them would in reality have become merely additional death points in an automobile world. One cannot well notice the beauty of a building when he is trying to see six traffic signs at once or to walk across a traffic-laden 200-foot boulevard.

These things we know today; but the reaction against the dreams of the past has often gone so far as to blind the eyes even of many city planners to the extraordinary importance of beauty in any city or town. Instead of thinking in terms of vistas we think in terms of traffic lanes; yet the things seen are there, to make their unconscious impression of disorder or system, of attractiveness or disgust. We think in terms of densities of population and forget sometimes that there are slums of low density — you have them here in Detroit, as well as slums of high density—and that what makes the slum or blighted area may sometimes lie merely in this intangible quality of beauty. We destroy beauties unthinkingly to produce a modern and systematic ugliness and monotony.

That is why the architect must take a leading part in city planning, either directly as professional, or indirectly as supporter, critic, inspirer. If we let the engineers have their way, we shall get a city which works but which may be as cold and heartless and hateful and inhuman as the inside of an ant hill. Might we not say, perhaps, that the ant hill with its perfect systemization of life and work and location is the engineers' ideal of a city? If we give the economists charge of city planning, we cannot know what we shall get unless we know whether the economists in charge are more devoted to capitalistic profits or socialistic cooperation; in the one case we may get much what we have today, with perhaps a few less bankruptcies in blighted areas, and in the other we may get an unworkable utopia. In neither case do we get the average life of the average human being as the criterion by which to measure the result.

The architect, on the other hand, is, or should be, trained from the beginning to think of buildings in terms of people. His is, in the highest sense, a profession even more humanistic than that of the doctor, for he must think of people well as well as of people sick. The architect realizes that man does not live by bread alone, or by transit systems or six-lane highways, or by sanitary sewage plants. The architect knows that man likes convenience, but likes pleasant things to look at too.

He knows that a man needs variety in his life, and needs sometimes that kind of combined bigness and beauty in experience which shall lift him out of his individual limitations if only for a moment, and give him some intuition of a larger cosmos.

What is it that makes people love a town? What makes us, when we travel, seek out Salem or Nantucket, or Florence or Paris? Isn't it because in those places we find harmony, a consistent patterning, a series of beautifully related shapes and colors, which somehow inspire us with values greater than that of their mere bricks and wood and stone? And I am not pharisaical enough to feel that this sensitiveness to beauty, this innate love of the patterned and the serene, is limited to any class or any income group. I believe it is as wide as humanity, where it has not been killed by starvation or deadened by lack of use, or cheapened and vitiated by the false stimulus of cheap advertising and cheap entertainment.

Certainly our forefathers, when they settled these fertile western fields, felt and realized that need and had that sensitiveness. The greens, commons, or squares of numberless Ohio villages, the quiet, well-designed houses, the dignified courthouses, the white churches of myriad towns, as far west as the Mississippi, show the ideal these people had. They built themselves houses they and their children could love, situated in towns which at the beginning were harmonious, planned—and consciously planned—to give the sense of a real community.They built academies and colleges to feed their minds, just as they plowed their fields to feed their bodies. They were whole people, and they realized that a whole people demands beauty. They loved their communities —loved them because they were beautiful, and beautified them because they loved them —and out of that love and respect was born the political democracy of this country.

I submit that, until we can today produce towns and communities as lovely, as inspiring, as harmonious and serene as those, much of our talk about progress becomes meaningless. And the city planner who plans without regard, or with but passing regard, for the beauty which will result from his plans is denying the future a part of its birthright.

For the city or town exists not for itself but for the individuals who live in it. It must not be A town but THEIR town. It must be in human scale, however large; it must be designed so that any individual can find within easy distance all that he needs (recreation, business, education, residence); and it must all be designed so that serenity and graciousness are as much a part of it as the pipes under its streets. It must be a town humanized, with trees and green a common incident along its streets. It must be a town so integrated and so organic as to prevent piecemeal, fly-by-night, jerry-built, speculative construction. It must be a town that people will love as well as tolerate—and that means children and old people as well as the energetic workers in the prime of life. Surely this much we are entitled to ask, when we consider the wealth of material and labor our post-war work will command, and the enormous means for realization of our desires which scientific and industrial techniques, if properly directed, make possible.

I think this whole matter is a challenge to all architects, and a test of the depth of their professionalism. If doctors had remained content for generations in the past with the mere high-priced care of wealthy patients, the medical profession would be a long way from where it is today. If all lawyers had spent their time in the unmitigated service of the wealthiest people, statesmanship would have died out in America more completely than it has. If architecture is a profession, it seems to me an integral part of this conception that the architect as a profesional man must be as much interested in the community at large as he is in the pursuit or execution of his own private jobs. And if he is thus devoted, of the profession exists to guard and assist the community as a whole over the entire field of building construction then, of course, planning and housing must become today the profession's almost primary interest.

How can the architect make this interest effective? For the architects fortunate enough to have the inspiring opportunities that a direct connection with city planning or the design of large-scale housing brings, the prob-

lem is merely one of bringing to their jobs the skill and the devotion their importance suggests. But most architects are not in this class. Yet to lose their influence would be disastrous. First of all, they must learn to know their communities. They must know what the problems are, what the possibilities are. They must be able to lead and direct public opinion in the criticism of matters of city-planning, zoning, and housing import brought before public hearings. They should be happy, if opportunity offers, to become members of local planning commissions. They can take the lead in community improvement associations and similar societies. Above all, they must make themselves the educators of the public.

The great stumbling block of the planning movement today is not lack of technical knowledge or idealism on the part of the planners; it is the fact that they command so little public support. There is such a pitifully small number of people passionately interested in the problem—a few city planners, some architects, many doctors, a few engineers and economists who have not been bought, a few technicians, some rabbis and clergymen, a small group of devoted politicians. Against them there stand ranged much tremendous power of organized wealth, all the organizations of those to whom profits are more important than people, and—above all—all the inertia of parroting minds who judge ignorantly or carelessly.

The only hope of a really creative planning movement lies in a change of this picture—lies in building up behind the efforts of the planners such a wide knowledge of what planning has done and can do that the demand for intelligent, imaginative, and human planning will become irresistible. To start an education of the masses is a task for which the architectural profession is particularly well suited. It can and must, through lectures and talks, through association meetings and committee work, through the schools and colleges, spread abroad among the people as a whole the knowledge of what planning—intelligent planning, human planning—can do for them; how it can effect their homes, their work places, the pleasantness and richness of their entire life. And the architects are also in a particularly good position to start the education of the great investing bodies whose money will go into the new structures of post-war America—the life insurance companies, the savings banks, the building-and-loan and mortgage associations.

Many architects have close contacts with such bodies already, and no greater stroke for realistic and at the same time human planning can be made than the conversion to it of these great and naturally for the most part reactionary forces. As someone said, they only know that they cannot be criticized for doing nothing—and especialy nothing new. They must be shown a fact which is a commonplace to all of us, that the majority of our cities and great sections of our rural areas are in possession of a business which no longer pays dividends, because its obsolete machinery can no longer meet the demands imposed upon it. Such communities **must** plan, **must** spend, **must** modernize themselves or die. Blighted city areas, deserted farms, increasing farm tenancy on a basis of submarginal living—these all are signs which even a bank president should be able to read. And the reading of these signs right will bring a revolution in investment, will bring from the investing bodies themselves an overwhelming demand for intelligent planning.

And there are other things architects can do. They must decide—and it a difficult decision—whether they are professional servants of the whole community, or more technical assistants to profit-making wealth. They must realize that as architects, in designing buildings or groups, they are frequently the only people who stand between those who will live in or use the buildings and unmerciful exploitation by greedy owners. They must realize that, if they wish to vindicate the position of architecture as a profession in post-war America, they must do it on the only possible true professional basis—service to the community as a whole.

VALENCIA GARDENS

(Continued from Page 23)

seems another unfortunate choice is the placing of the garbage chutes in the entrance-ways beside the front doors. It would be an advantage if every architect could live for a while among very miscellaneous people, to learn some of their inevitable habits. He could learn that humanity is incorrigibly careless about getting coffee grounds and cigarette stubs into garbage chutes. Some tenants will not "wrap all refuse" as admonished by the lettering on the chute (a not very delicate thought to greet one at every home-coming); and suit-boxes, bunches of withered flowers and other articles too large for the chute are certain to be left below on the floor. By recessing the chutes one foot, and placing a door in front of them, some truly distressing results could have been avoided.

SOCIAL NEEDS OF TENANTS NOT OVERLOOKED

But the inviting quality of the project far outweighs the few omissions. One can imagine that a new way of life will open up for many of the tenants. Imagine a harassed father of five who now finds himself with a craft room to which he can escape from the rough-and-tumble. And the mother who can leave her toddlers safely in a fenced play-yard. After stumbling for years over wheel-toys, she now has a room where they can be left locked at the foot of the stairs. The laundries could have been made lighter and more cheerful, but they probably will please a woman who has been washing in pails or a sink. One can hear the sociable conversations that will be carried on across the wash-tubs. In each utility court are two vine-enclosed drying yards with seemingly miles of lines.

There has been considerable planning for the social needs of Valencia neighbors. The idea, apparently, was that a family wants separation from hundreds of neighbors, but contact with a few. Benches around the grass plots in the utility courts, and low brick walls around the plots in the entrance courts will surely invite tenants to sit down and get acquainted, beneath their trees. The arrangement of curving walks and planting give many little areas with some seclusion. No provision for such intimate outdoor sitting places has been made in most of the war housing projects. In that, as in many ways, Valencia Gardens can furnish hints for lightening the burden of surplus neighbors.

William W. Wurster and Harry A. Thomsen, Jr., were associated as architects of Valencia Gardens. Thomas Church designed the landscaping. The Meyer Construction Company were general contractors, and the project was sponsored by the Housing Authority of the City and County of San Francisco.

WORLD'S MOST UNIQUE PRODUCTION LINE

These streamlined control cars for U. S. Navy blimps are flowing in daily increasing numbers down a long production line in one of the Goodyear Aircraft Corporation plants in Akron—the only production line of

its kind in the world. Shown here is just a portion of the production line with a section at the end (upper right hand corner) where each car's exterior is sprayed with the Navy's battle gray, after which it leaves through the big doors for another place where the completed cars are assembled to their big cigar-shaped bags.

Construction at the beginning of this production line starts with the cars in an inverted position. Halfway through the line, the cars are turned up in their flying positions, as here, for attaching the motors to the outriggers and for other final touches.

OLD TIMERS MAKE MERRY

"Old Timer's Night" was celebrated by the members of the Structural Engineers Association of Northern California at the Engineers Club, San Francisco, March 2. Among the "old timers" who reminisced were H. J. Brunnier, Gus Saph and Clem Wiskocil. A fine dinner preceded the talk-fest.

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EDUCATION FOR ARCHITECTURE

The Executive Committee of the State Association of California Architects has recently invited the School of Architecture of the University of California to have a member of the faculty of the school sit with them in their monthly meetings. "So-what!"

Well, the first answer to the "So-whats" is that from time immemorial, or thereabouts, a certain section of the practicing architects has complained that the schools are out of touch with the actual work going on in the world; the schoolmen counter with the assertion that the office men do not know what the school is doing—that the schools are being panned for making "history plates," which practice was abandoned in most schools twenty years ago; and neither side to the controversy does much of anything to correct an unfortunate disagreement. ('School," as used here, refers to the school in Seattle, Berkeley, Los Angeles, or wherever there is a school.)

Of course, there has long been a suspicion in both the faculty camp and in the less financially able architectural office sanctums that a part of the frigidity of feeling was occasioned by the fact that, before the schools were well established, a promising youngster was taken into the office as an office boy—when paid exceptionally poorly he was dignified as an "apprentice"—and after spending four or five years learning the boss's ideosyncracies he could turn out a set of plans about as well-drawn as the boss was capable of, and he did it without any back-talk about the boss's design being "cheesey." Now that the bright young man spends those four or five years in college he (sometimes) comes into an office as ignorant of a spandrel section as he is of a specification. But he does know that, though the "Old Man" is a bear as an estimator, his design efforts are distinctly "stinko." And sometimes the impertinent young ass can't wipe away his expression of disgust before the boss has noticed it.

So, you see, differences of opinion are not confined to the subject as to which horse is the better stretch runner.

What is the actual situation? By specific instances, it might be proven that there are darned-fool theorists in the school faculties whose only touch with reality has become lost in the haze of long ago when they first started cashing checks drawn against the regents. And it might be possible to find an architect who is a "business man" exclusively—in the worst connotation of the word "business." But in our limited experience we seem to remember some of the boys fresh out of school who, with but a few months of drafting room training, were taking the most difficult assignments in the office and making them look easy.

Let's get back to our faculty representative at the Executive Committee meetings. May it not be a slight step forward to let the faculty man know that when he discourages draftsmanship, and there are such in some of the

schools, that he is off the beam; and may it not be at least slightly possible to do a little adult education among the architects to let them know that boys are turning out working drawings in the school, and good ones, too. At the same time most of the boys are learning to become far better architects than they could be if they were spending weeks acquiring proficiency in setting bricks, etc., etc., through all of the trades. In fact, we know one architect who wouldn't mind, if he had a son studying architecture, were that mythical son required to draw a "history plate" at least once in his college career. A horrible thought, isn't it!

Perhaps the academic boys who hitch their wagons to the stars can sit on a hillside for an hour or so with those who grub in the fertile valleys of business. Both may even get a better view of their beloved "frozen music."—W. C. A.

L. A. Members Serve Uncle Sam

Outstanding feature of the January meeting of the Southern Section, State Association of California Architects, was the exhibit of OCD camouflage models. Prepared at the University of Southern California under the direction of Dean A. C. Weatherhead, the models represented industrial centers, rural areas and residential districts. The models were divided into four sections, on which the various teams studying protective concealment placed camouflage. Members of the teams were present to explain the work.

The Association service flag was dedicated by John C. Austin. Reminding the gathering that the twenty-six men already representing the Southern Section in the armed forces are only the forerunners of many more to be called, he said that no attempt had been made to compile a roster according to rank. The twenty-six stars in the flag represent men in grades from private to brigadier-general. They are: Pvt. A. Q. Jones, Pvt. C. H. Rawlings, Marine Lieut. H. J. Bissner, Navy Lieut. A. Frick, Pvt. J. W. Wright, Navy Lieut. Harold Hawes, Maj. Chas. E. Fry, Capt. J. Robert Harris, Pvt. Howard P. Hess, Lieut. Wm. D. Holdredge, Capt. Robt. Inslee, Lieut.-Col. Gordon, Kaufman, Maj. Richard King, Marine Lieut. Ben O'Conner, Maj. Donald Parkinson, Maj. H. O. Sexsmith, Capt. E. Allan Sheet, Lieut. Savo Milan Stoshitch, Brig.-Gen. Henry Carlton Newton, Capt. R. M. Crosby, Maj. Glenn Elwood Smith, Capt. Erwood Eiden, Capt. Harold Spielman, Capt. B. C. Turner, Lieut. Wm. S. McCay, and Frank Wynkoop.

Presided over by President Walter Hagedohm, the meeting was well attended.

H.O.L.C.

The current proposal in Congress to bring an end to the Home Owners Loan Corporation does not strike a responsive chord with the western architects and engineers. The operations of the H.O.L.C. in this district have been more or less of a model as to how a governmental agency may be conducted without being antagonistic to private enterprise. The individual projects of the H.O.L.C. have generally been of small scale, though the total volume of work under that jurisdiction has been enormous. When need has arisen for the use of specialized or professional service, the H.O.L.C. has not hesitated to employ men in private practice. The individual jobs have been small, as they now are in the remodeling work for war housing. The fee scale has been modest in keeping with the nature of the work. But there is abundant testimony that few, if any, of the governmental agencies have handled their work in a manner as business-like as has the Home Owners' Loan Corporation.

Homing

The last few weeks have marked the return of two prominent Bay District architects from sojourns in Utah where they have been engaged on large-scale Federal construction projects. Both Harry Michelsen of the firm of Day and Michelsen, architects, and Edward J. Maher of the firm of Blanchard, Maher and Ward, architects, have mingled with the Mormons while in charge of design and supervision for their firms of multi-million-dollar war plants.

SAN FRANCISCO ARCHITECTURAL CLUB

The San Francisco Architectural Club held its monthly meeting March 3 at the Builders' Exchange.

Lieutenant Dick Andsley, past president, honored the club with his presence and told the boys all about army life. Also, Abe Granish, former club treasurer, put in his appearance, and the members gave both a warm welcome.

Guest speaker was Jan Reiner, Czechoslovakian architect, who discussed "Architecture Today and Tomorrow" and showed slides of modern American and European buildings and housing projects. He pointed out that through new uses of steel, concrete, glass, wood and plastics, post-war architecture will develop. He said, "After victory, this country should be ready to furnish not only food, but also shelters for the millions of homeless people throughout the world. Prefabrication of homes is the best way to accomplish this."

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PRODUCERS' COUNCIL PAGE

Northern California Chapter

The National Organization of Manufacturers of Quality Building Materials and Equipment Affiliated with the AMERICAN INSTITUTE OF ARCHTECTS

George Quamby, Detroit Steel Products and Dan Anzini of G. E., were interesting and informative in their talks of March 1 at the regular noon meeting. "Believe it or not," said George, "stock sizes in steel window frames may still be obtained without a priority extension and at reduced prices." Wartime activities of other companies were the subject of the speeches given by both men.

Next meeting, April 15, Monday at noon. As usual, Room A, Palace Hotel. The speakers, Ed Banta of H. H. Robertson Co. and Allen Turner of Masonite Co. These speakers will continue the current series of discussions on the part their companies are playing in wartime activities, giving special emphasis to new products developed for use in the emergency or to replace vital materials that have gone to war.

Welcomed to new membership was Norman Brown of Bell & Gosset Co., Chicago. Brown's headquarters are at 637 Minna St. New Council representative from G. E. is Dan Anzini, known to the industry through his many years of service with G. E. Other new representatives: Hal Heakin for International Nickel, Ed Cathcart for Johns-Mansville, R. S. Peele for The Peele Co. and Clyde Wood for Westinghouse Electric & Mfg. Co.

The Council announces with sincere regret, the passing of Ben Blair, one of the founders of the local chapter. Ben died February 22 after a prolonged illness.
Due to changes in his company, American Radiator and Standard Sanitary Corp., Ben had to drop out of the Council several years ago. It was under strong protest that Ben left the Council and even then he remained a staunch friend and supporter. We will all miss Ben.

President Chuck Kraft reports keen interest back East in the activities of the local chapter. Chuck lunched with Jim Follin, Managing Director of the National Council in Washington, D. C. He also met with National President F. J. Plimpton of Vermont Marble, Samson of International Nickel, Tibbetts of National Lead, Byington of Johns-Manville, Tree of Carrier Corp., and Bebb of Otis Elevator, at a luncheon in New York. Old ties are being strengthened.

HORACE L. PICKETT

Horace L. Pickett, new Vice-President of the local chapter is Central Division Sales Manager for National Lead Co. Born and raised a Hoosier, Horace started a teaching career which was interrupted by World War I. Worked for Goodyear in Akron and Los Angeles, joined National Lead in 1923. Has been identified with sales, sales management and sales promotion during his tenure with National Lead.

Pardonable Pride may well be shown by the local chapter in the fact that we are held up as a shining example to the other twenty local chapters as a result of our 12 years of consistent effort in Council activities.

Architectural Organizations have just named the following Liaison Officers to work with the Northern California Chapter for the current year; Northern California Chapter, A.I.A., Wilbur D. Peugh and his alternate, John Davis Young. The Northern Section of the State Association of California Architects has named J. Francis Ward.

Les Hurd sends, "My Love" to the local chapter members. After a full day of "reconnaisance," President Chuck Kraft finally located Col. Hurd "somewhere in Washington," and gave Chuck this touching message, "Give them my love, that's all I want," and then added, "Some day I'll return and tell them how much I think of the Northern California Chapter. They're a swell bunch of fellows." Les is doing a tremendous job in the construction end of the Chemical Warfare Services, and believe Chuck Kraft who says that at least some of those boys in Washington are burning the midnight oil and Les Hurd is one of them.

William Hague, Secretary of the Central California Chapter of Associated General Contractors, announces a new radio program sponsored by A.G.C. The program is built around the facilities of the construction industry. See local newspapers for details.

USE QUALITY PRODUCTS • CONSULT AN ARCHITECT

THE ARCHITECT—
STILL ADVANCING ON THE WAR FRONTS

SAN FRANCISCO ARCHITECTS GET MORE HOUSING JOBS

More San Francisco Bay Area architects have been commissioned to prepare plans for apartment units to relieve the housing congestion. Those named include Eldridge T. Spencer and William C. Ambrose, who will design 1050 and 700 war apartment units, respectively, for Hunters' Point; E. Geoffrey Bangs and Howard Moise, 605 Market Street, 500 dormitory units, also at Hunters' Point; Hervey P. Clark and Francis E. Lloyd, 1005 war apartment family units and 700 war apartment single units, respectively, at Hunters' Point and in the same locality 500 dormitory units by W. P. Day and Harry M. Michelsen.

Working drawings are in progress in the office of Albert F. Roller, 1 Montgomery Street, San Francisco, for 720 dwelling units in South San Francisco for the South San Francisco Housing Authority. Part of this project was originally scheduled for Millbrae.

The U. S. Maritime Commission has let additional contracts to Robert McCarthy for 4,000 war apartment units in Richmond from plans by the Engineering Department of the Richmond Shipbuilding Company.

SITE SELECTED FOR NEW OAKLAND DORMITORIES

Site has been selected at 26 and Linden Street (the old McClymonds School) for a 300-unit dormitory building from plans by John J. Donovan, 950 Parker Street, Oakland. The Housing Authority of the City of Oakland is sponsoring this project as it is also the 500-unit trailer camp from drawings by E. Geoffrey Bangs.

Another trailer camp is projected for Alameda with the drawings in the hands of Andrew T. Haas and C. I. Warnecke, Oakland architects.

At Stockton, San Joaquin County, Peter L. Sala, 2130 North Commerce Street, that city, has completed plans for 200 family units and 50 dormitory units, estimated to cost $400,000. Bids have been taken and construction is expected to go forward at once.

Another East Bay job, ready to start, is at Pittsburg, where two dormitory buildings and an administration building will be erected near the Columbia steel plant, from plans by Messrs. Bangs, Narbett and Spencer.

NEEDED HOUSING PLANNED FOR SAN MIGUEL

The Government is going to spend a lot of money in new construction work at San Miguel, where there are some 5,000 administrative employees who are at present inadequately housed. Some 200 war dwelling units are planned, besides a trailer camp, maintenance and other buildings. Francis J. McCarthy, 507 Montgomery Street, is the architect.

Charles E. Bigger of Bakersfield has let contracts for three dormitory and dwelling projects at Muroc and estimated to cost in excess of $400,000.

HOME OWNERS' LOAN EMPLOYS MANY ARCHITECTS

The Home Owners' Loan Corp. is letting out quite a number of remodeling jobs, including apartment houses and private dwellings. The improvements will provide additional accommodations for war workers in the San Francisco congested area. Architects engaged in this work include Harry A. Thomsen, Jr., W. G. Merchant, F. H. Reimers, Hyman & Appleton, James H. Mitchell, Albert R. Williams, William Mooser, Francis J. McCarthy, H. T. Johnson and O. A. Jenkins.

The U. S. Bureau of Yards and Docks has let a contract to Barrett & Hilp for $3,875,300 for additional facilities at Hunters' Point and Architect W. D. Peugh has let a contract to the McNeil Construction Company, 5860 Avalon Boulevard, Los Angeles, for a Navy Battalion Replacement Center near Pleasanton for $10,275,000.

SPECIAL NOTE—Important Corrections in this issue.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San rancisco and the Bay District. There may be ight fluctuation of prices in the interior and outhern part of the state. Freight cartage, t least, must be added in figuring country ork.

ond—1½% amount of contract.
Government work ¾%.

rickwork—

Common, $43 to $45 per 1000 laid, (according to class of work).

Face, $125 to $150 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.50 lin. ft.

Brick Veneer on frame buildings, $1.10 sq. ft.

Common f.o.b. cars, $16.00 a yard. Cartage extra. $2.50 per 1000.

Face, f.o.b. cars, $55.00 to $80.00 per 1000, carload lots.

uilding Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.95 per ton at bunker; delivered, $2.50. All quotations less 10% to contractors.

	Bunker	Delivered
Top sand	$1.90	$2.50
Concrete mix	1.90	2.45
Crushed rock, ¼ to ¾	1.90	2.50
Crushed rock, ¾ to 1½	1.90	2.50
Roofing gravel	2.25	2.80
River sand	2.25	2.70

AND—

	Bunker	Delivered
River sand	$2.25	$2.70
Lapis (Nos. 2 & 4)	2.85	3.15
Olympia Nos. 1 & 2	2.85	3.10
Del Monte white	84c per sack	

Common cement (all brands, paper sacks) carload lots $2.42 per bbl. f.o.b. car; delivered $2.60.

Cash discount on carload lots, 10c a barrel, 10th Prox.

tias White, Calaveras White, Medusa White — 1 to 100 sacks, $2.70 sack, warehouse or delivery; $7.65 bbl. carload lots.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet. (Available only for priority work.)

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13/16x2¼" T&G	⅜x2" T&G	⅜x2" Sq.Ed.
Clr. Otd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place. $1.00.
Art. $1.00 up per square foot.
Wire (for skylights), glazed, 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$45.00 per M
No. 2 common	43.00 per M
Select O. P. Common	48.00 per M
1x4 No. 2 flooring VG	80.00 per M
1x4 No. 3 flooring VG	75.00 per M
1x6 No. 2 flooring VG	90.00 per M
1¼x4 No. 2 flooring	85.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	50.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.40 per bdle.

Plywood—Douglas Fir (add cartage)—
"Plyscord" sheathing (unsanded)
⅜" 3-ply and 48"x96" ..... $39.75 per M
"Plywall" (wallboard grade)—
¼" 3-ply 48"x96" ..... $43.70 per M
"Plyform" (concrete form grade)—
⅝" 5-ply 48"x96" ..... $117.30 per M
Exterior Plywood Siding—
⅜" 5-ply Fir ..... $132.00 per M
Redwood (Rustic) 1"x8" clear heart..$ 95.00 per M
$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $100.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, $1.08 per gal.. in 5 gal. cans, and 95c per gal. in drums.
Raw Linseed Oil—$1.32 gal. in light drums.
Boiled Linseed Oil—$1.35 gal. in drums and $1.48 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead and litharge

1 ton lots 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12½c
500 lbs. and less than 1 ton	13¼c
Less than 500 lb. lots	13¾c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.70
2 coats, lime mortar hard finish, wood lath	.90
2 coats, hard wall plaster, wood lath	.80
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.60
Ceilings with ¾ hat roll channels metal lath (lathed only)	1.10
Ceilings with ¾ hat roll channels metal lath plastered	2.00
Single partition ¾ channel lath 1 side (lath only	1.10
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	2.00
4-inch double partition ¾ channel lath 2 sides plastered	3.50
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	3.00
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	4.00
3 coats over 1" Thermax nailed to one side wood studs or joists	1.50
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.75

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000 (not available)	
2.5-lb. metal lath (dipped) (not available)	.19
2.5-lb. metal lath (galvanized) (not avail.)	.21
3.4-lb. metal lath (dipped) (not available)	.22
3.4-lb. metal lath (galvanized) (not avail.)	.24

¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $25.00 ton.

Plasterers Wage Scale	$1.75 per hour
Lathers Wage Scale	1.75 per hour
Hod Carriers Wage Scale	1.50 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.5
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place
Sandstone, average Blue, $4.00. Boise $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)
Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft
4 x 6 x 12	1.15 sq. ft
2 x 8 x 16	1.10 sq. ft
4 x 8 x 16	1.30 sq. ft

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1943 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

All crafts, except plasterers, are now working 8 hours a day. Plasterers' time is 6 hours.

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	1.87½	1.87½	1.50	1.87½	2.00	2.00	1.87½	1.87½	2.00
BRICKLAYERS' HODCARRIERS	1.40	1.40	1.05	1.40	1.40	1.40	1.40	1.40	1.40
CARPENTERS	1.43	1.43	1.25	1.43	1.43	1.43	1.43	1.43	1.43
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	.81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	1.75	1.75	1.50	1.75	1.60	1.75	1.75	1.50	1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	1.37½	1.50	1.28-4/7	1.37½	1.25	1.35-5/7	1.42-6/7	1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	1.66-2/3	1.66-2/3	1.75	1.66-2/3	1.75	2.00	2.00	1.75	1.83-1/3
PLASTERERS' HODCARRIERS	1.50	1.45	1.40	1.40	1.18¾	1.35	1.75	1.40	1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.	1.25	.. ..	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53⅛	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	1.50	1.75	1.50	1.75	1.75	1.50	1.75	1.75	1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

L. A. CHAPTER AND POST-WAR PLANNING

The February meeting of Southern California Chapter, A.I.A., was given over to a report by President Samuel E. Lunden of his recent trip East during which he made a special effort to obtain first hand information on post-war planning. Lunden said that Denver had actually prepared a long range plan, that city having been used by the government, which supplied the money, as a "sort of guinea pig" to prove the value of the work. Indications that Los Angeles might also obtain Federal funds for its program were seen in Lunden's statement that the National Resources Planning Board in Washington has expressed interest in long range post-war planning. Officials have intimated that additional Federal allocations may be made, he said. Other cities reported by Mr. Lunden as planning for the future include New York, where a new zoo and an aquarium are to be built.

Promising more detailed information at the next meeting, Reginald Johnson told the gathering of Town Hall's post-war planning program. He said application would be made to the Haines Foundation for funds with which to finance the work. Meetings are scheduled to start in about a month, the exact date to be announced later.

Announcement of a new committee, the Regional Planning Committee of the Southern California Chapter, American Institute of Architects, was made. Under the leadership of Vice-President Herbert Powell, it is designed to coordinate the efforts of those engaged in long range planning.

Business transacted at the February meeting included the circulation of a petition seeking the nomination of Raymond J. Ashton, F. A. I. A., of Salt Lake City, Utah, as national president, and brief reports by William H. Harrison and Walter C. Wurdeman, secretary and treasurer, respectively, of the Southern California organization.

ENGINEERS AND ARCHITECTS ASSOCIATION

Engineers and Architects Association of Southern Califonia held a rousing meeting and dinner at the Cabrillo Hotel, in Los Angeles, February 25. Dr. Ralph Phillips told "When Japan Attacks," and "March of the Movies," proved a film spectacle extraordinary. Commodore J. Stuart Blackton was an added speaker, and Gertrude Kreig, the Southern Nightingale in "The Gay Nineties," delighted in person.

Engineers and Architects Association is a live organization these troubled days, due to an efficient, hustling executive board headed by Paul H. Ehlers, president, and Lynn Hirsh, secretary.

SYRACUSE UNIVERSITY COMPETITION

Syracuse University announces first year scholarships in architecture, one for $400 and four for $200, in drawing and preparatory school record. Contestants must send to the College of Fine Arts not later than July 1, a portfolio containing 20 examples of their work in free hand and mechanical drawing, together with three letters of recommendation. Applications for entrance to the competition must send a $5 matriculation fee. Address applications to Dean H. L. Butler, College of Fine Arts, Syracuse, N. Y., on or before June 25.

ABOUT PREFABRICATED HOUSES

With post war planning "just around the corner" the architect must be ever mindful of new trends and far reaching changes in building materials. Not the least important will be the subject of prefabrication, a rapid and economical method of building that war housing has demonstrated to be a success. For those who may wish to better inform themselves on the subject of Prefabricated Housing, the following sources of information should prove helpful:

Articles in Business Week, published in New York, include "Housing for War," "Dormitories," T. V. A. Houses, "Six Houses a Day," "Housing in Slices," and "28 Minute Houses."

Technical Bulletin, No. 2, Central Housing Committee, Washington, D. C.

Nations Business, Washington, D. C., January, 1942, article by R. L. Ven Boskirk on "Assembly Line Houses."

"Prefabrication," by Clarence A. Perry, published by Russell Sage Foundation, New York.

The American Builder and Building Age, 105 W. Adams Street, Chicago, has published many good articles on the subject of which the following are representative: "Lumber Panel Houses for $1,119"; "Pierce Foundation Houses for Martin Workmen," "Prefabricated Houses Finally Arrive," "Census Shows Increase in Fabricated Houses," "Army and Navy Try Out Demountable Houses."

Architectural Forum, "Prefabrication Gets Its Chance," "Private Enterprise Prefabricates 600 Houses for Bomber Builder Martin With Walls of Single New Material," "Prefabricators Put on a Show," "1,000 Houses a Day at $1,200 each."

Architectural Record, September, 1941, "Prefabrication Needs the Architect," "Labor Problems in Prefab." "The American Home," "Low Cost Homes," "Your Home Is Being Loaded This Morning."

House and Garden, February, 1942, "Houses for Defense."

Readers' Digest, August, 1940, "Houses Off the Assembly Line."

A very complete compilation of articles and biography on "Prefabrication," has been published by Newell-Emmett Company, 40 East 34th Street, New York.

THE PITT RIVER BRIDGE, HIGHEST DOUBLE-DECKED STE

The recently completed Pit River Bridge in Siskiyou County, California, marks the completion by the United States Bureau of Reclamation of a $7,245,000 project—the relocation of U. S. Highway 99 around Shasta Dam Reservoir. The project included the Pit River Bridge, highest double deck highway and railroad structure in the world, cost of the bridge alone exceeding $5,000,000.

THE MIGRATORY ARCHITECT . . . MORE CHANGES IN ADDRESSES, DUE TO THE WAR

J. D. Annand has moved from 1123 N. W. Glisan Street, Portland, Ore., to 414 Central Building, Portland, Oregon.

Reddick H. Bickel has moved from 557 Market Street, San Francisco, to the Hobart Building, 582 Market Street, same city.

Harold E. Burket from 740 East Main Street, Ventura, to 1735 Monita Drive, same city.

Mario F. Corbett from 576 Erskine, Pacific Palisades, to care of McNeil Construction Company, Engineering Department, Pleasanton.

Ernest R. DeChene from 424 - 60th Street, Oakland, to 716 Arlington Avenue, Berkeley.

Russell Guerne deLappe announces architectural offices for the duration at 564 Market Street, San Francisco.

Charles H. Franklin from 1244 "O" Street, Fresno, to care of Army, Presidio of San Francisco.

John Cooper Funk, old address, Box 1027, Flagstaff, Arizona; new address, 1085 South San Antonio, Pomona.

Henry H. Gutterson has moved from 111 O'Farrell Street, San Francisco, to 26 O'Farrell Street, same city.

Hiram J. Hamer from 4250 Rodeo Road, Los Angeles, to 8473 Beverly Boulevard, same city.

Otis E. Hancock from 407 Marion Building, Seattle, Washington, to 10743 - 17th, N. E., Seattle, Washington.

F. D. Harrington from 2335 Charlton Street, Los Angeles, to 5022 Cliff Place, San Diego.

Howard S. Hazen from 2491 El Caninito, Oakland, to 4165 MacArthur Boulevard, Oakland.

A. R. Hutchason from 1204 Architects' Building, Los Angeles, to 126 North Norton, Los Angeles.

Arthur D. Janssen from Route 1, Box 73, Redwood City, to 58 Austin Avenue, Atherton, via Menlo Park Post Office.

Reginald D. Johnson from 3717 South Sycamore, Los Angeles, to 5300 Rodeo Road, same city.

Howard E. Jones has moved from 201 Citizens National Bank Building, San Bernardino, to 571 - 16th, same city.

Norman W. Kelch from 1201 Enfield Road, Austin, Texas, to 151 East Basic Road, Box 1150 BML, Las Vegas, Nevada.

H. Roy Kelly from 1102 Architects' Building, Los Angeles, to 1227 North Sweetzer, same city.

Richard F. King, from 801 W. M. Garland Building, Los Angeles, to 2730 Peck, San Pedro, California.

Gerald Marsac from 8576 Wilshire Boulevard, Beverly Hills, to Rural 1-M-40, Globe, Arizona.

Frank V. Mayo from 931 North El Dorado Street, Stockton, to 3119 North American Street, Stockton.

Armand Monaco from Pershing Square Building, Los Angeles, to 3021 Waverly Drive, Los Angeles.

Morrow & Morrow from de Young Building, San Francisco, to 6175 Hillegass Avenue, Oakland.

TRUCTURE OF ITS TYPE IN WORLD—OPENED TO TRAFFIC

The lower deck of the bridge has a double track for use of the transcontinental railroad trains. Above the train deck and atop the cantilevered trusses is a four lane highway for automobile traffic. The steel bridge is 3,587 feet long and 500 feet above river bed. Two of its concrete piers are the highest in the world, exceeding 350 feet. The old bridge, still in use, is seen in the background.

Courtesy California Highways and Public Works

Keith O. Narbett has moved his offices from Richmond to 564 Market Street, San Francisco.

David A. Ogilvie has moved from 1060 Marcheta Street, Altadena, to 217 Belmont Street, Long Beach.

Paul C. Pape from 2153 North Highland Avenue, Los Angeles, to 1903 Dracena Drive, same city.

E. Charles Parke from Rowell Building, Fresno, to Fuller Building, San Bernardino.

George J. Paulus from 903 Bryant Street, Palo Alto, to 2540 Bryant Street, Palo Alto.

E. M. Pierce from 1101 Architects' Building, Los Angeles, to 3570 Locksley Drive, Pasadena.

Theodore Pletsch from 170 East California Street, Pasadena, to 2482 North Roosevelt, Altadena.

Rudolph A. Pooley from 623 East Cypress Street, Santa Maria, to 824 South McClelland Street, same city.

George Postle from 501 West Patterson Avenue, Glendale, to 1900 Melwood, same city.

Quintin & Westberg from 317 West Main Street, Alhambra, to 308 South Garfield Avenue, same city.

Ulysses F. Rible from 9297 Wilshire Boulevard, Beverly Hills, to 1689 Comstock, Los Angeles.

Neilson P. Rice from 2430 Live Oak, Huntington Park, to 756 South Broadway, Los Angeles.

George D. Riddle from 400 West 23rd Street, Long Beach, to 1251 South Adams, Glendale.

Jonathan Ring from 1611 Morengo Avenue, South Pasadena, to 1020 Union Street, Apartment 2, San Francisco.

F. L. Roehrig from 1136 North Hill Avenue, Pasadena, to 339 West Palm Avenue, Monrovia.

Theodore G. Ruegg from 4018 - 22nd Street, San Francisco, to 1181 Colusa Avenue, Berkeley.

Chris W. Runge from 815 - 25th Avenue, San Francisco, to Norfolk, Virginia.

Allen Ruoff from 525 South Gramercy Place, Los Angeles, to 614 South San Andrews Place, same city.

Lester G. Scherer from 8555 Sunset Boulevard, Los Angeles, to 4632 Atoll Avenue, same city.

Frederick Scholer from 845 South Gramercy Place, Los Angeles, to 1051 South Cloverdale, same city.

Arlos R. Sedgley from 5404 Sierra Vista, Los Angeles, to 222 South Detroit Street, same city.

Alger H. Shaver, C. E., old address, Box 565, Napa; new address, 41 - 22nd Street, San Francisco.

Whitney R. Smith has moved from 209 Beacon Street, South Pasadena, to 5805 Estelle, San Diego.

Wilton Smith from 11030 - 82nd Street, Edmonton, Alberta, Canada, to care of Bechtel-Price-Callahan, 109th Street and Jasper Avenue, Edmonton, Alberta, Canada.

Gifford E. Sobey from 2270 North Point Street, San Francisco, to 3792 Sacramento Street, San Francisco.

Robert Stanton from Hotel Del Monte, Del Monte, to Pebble Beach.

D. F. Staunton, Jr., from 371 Patrician Way, Pasadena, to 1121 Linda Vista, same city.

S. A. Stepanian from 1063 Gayley, Los Angeles, to 919 Moraga Drive, same city.

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McNeal Swasey from 660 South Vermont Street, Los Angeles, to 408 South Spring Street, same city.

Andrew B. Talbot from 3060 Pacific Avenue, San Francisco, to 2714 Pacific Avenue, same city.

Edgar V. Ullrich from 836 Kennebec Court, San Diego, to 7608 Girard Street, La Jolla, California.

Harry K. Vaughn from Suite 414, Chapman Building, Fullerton, to 2172 Front Street, San Diego.

Albert R. Walker from 405 South Hill Street, Los Angeles, to 530 West Sixth Street, same city.

Henry B. Watson from 810½ North Bonnie Brae, Los Angeles, to 1142 West Kensington, same city.

Frederick Westcott from Apartment 202, Mayfair, Spokane, Washington, to 726 Sixth Avenue, same city.

Kenneth S. Wing from 501 Termino Avenue, Long Beach, to 4320 Olive Avenue, same city.

Henry F. Withey from 407 South Western Avenue, Los Angeles, to 15031 Ventura, Van Nuys, California.

W. W. Wurster from 2632B Hyde Street, San Francisco, to 63 Sparks Street, Cambridge, Massachusetts.

Frank Wynkoop from 420 Haberfelde Building, Bakersfield, to 1676 Chester Avenue, same city.

WINNERS OF STEEL BRIDGE COMPETITION

Prizes in the annual students' bridge design competition have been awarded by the American Institute of Steel Construction as follows:

First prize, George W. Russell; second prize, N. Clifford Prall; third prize, Curtis D. Hicks, all of Iowa State College.

The subject of the design for this year's competition was a steel grade separation bridge carrying a highway over a four-track railroad, a navigable canal, and a dual four-lane highway to which there are connections with the overhead crossing.

NEW STATE HIGHWAY ENGINEER

George T. McCoy has begun his duties as State Highway Engineer of California, succeeding C. H. Purcell, who is now Director of the State Department of Public Works. McCoy served ten years as Assistant State Highway Engineer and he has been with the Department in different capacities since 1927. He is a graduate of Columbia University.

KINLEY MEMORIAL FELLOWSHIP

The University of Illinois announces that the Board of Trustees will consider candidates for the Kate Neal Kinley Memorial Fellowship after applications have been filed May 1. Requests for application blanks should be addressed to Dean Rexford Newcomb, College of Fine and Applied Arts, Architecture Building, University of Illinois.

NEW BLACKOUT METHODS

New developments plus experience gained during the past year are helping reduce the hazards of blackouts and dimouts and are making these protective measures more effective, Samuel G. Hibben, noted lighting authority, told a meeting of the American Physical Society at Mellon Institute, Pittsburgh, Pennsylvania. Mr. Hibben, who is director of applied lighting at the Westinghouse Lamp Division, Bloomfield, N. J., predicted a greater reduction in the accident toll during blackouts and dimouts once full advantage is taken of modern lighting and safety devices.

"We have learned much about blackout technique during the past year," he declared. "We know now, for instance, that when the air raid sirens sound, it is neither necessary nor desirable to sit in the dark in an atmosphere of nervous tension. The idea is to blackout the enemy not ourselves. We have learned that it is quite possible to have a complete exterior blackout without sacrificing adequate interior illumination in home or factory.

"In case of air raids or blackouts," he said, "the people should be prepared to carry on vital work without interruption. The average citizen should know how to maintain healthful conditions in his home and how to avoid accidents during the blackout period.

Present day industrial architecture represents the ideal in industrial protection. It provides such important features as windowless construction, shatterproof glass, minimum of skylights, neutral exterior coloring and light interior painting.

"Even in older industrial plants not so equipped, however, it is possible to have such protection by making full use of the most modern lighting and safety devices. The blackouts must be effective, but not at the price of an increasing accident toll.

"One of the most interesting developments in blackout technique had been that of phosphorescent and fluorescent materials," Mr. Hibben pointed out. "Phosphorescent coatings will glow in the dark without light being shined upon them, while fluorescent materials glow when irradiated by ultraviolet light which itself is invisible."

Recommending the use of luminous markers and signs to denote exits, doors and factory aisles, Mr. Hibben also described its use on clothing and automobile exteriors. In addition, he added, phosphorescent coatings may be used to outline door knobs, switches, stairs, railings, paths to air raid shelters and in many other locations.

"Blackout accidents are not necessary," he said. Early in this war, thousands of persons in Great Britain were injured because of blackout accidents in the homes and streets. We want to prevent that from happening here as much as possible — whether or not bombs fall."

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LONDON'S WORST HOUSING SHORTAGE

London is suffering from the worst housing shortage since the end of the last war, and property owners and estate agents are hard put to know what to do about it. The shortage results from the fact that London's population, depleted more than two years ago by evacuations, is again rising rapidly as civil servants and office workers flock back wholesale to the city. While they were away in other parts of the country air raids destroyed thousands of homes which would otherwise have been available for them today.

Two solutions of the problem have been proposed by property owners and estate agents to the Ministry of Works and Planning and to the local housing authorities, with the assertion that if the proposals were adopted thousands of people could be accommodated. The proposals are that (1) the Ministry should increase the limitation amount of $400, which is all that is allowed for house repairs under wartime regulations, or should grant more licenses for more extensive renovations, and (2) that the local authorities should give up houses which have been kept reserved for people who have been bombed out of their homes.

The Ministry's and the local authorities' replies to these suggestions have not given much cause for belief that the situation will be alleviated in the near future. The Ministry replied that there was no likelihood of the $400 limit on repairs being raised, but that repairs had been allowed to the utmost extent that labor and materials were available. The value of work sanctioned so far since the limitation was put into effect has totalled 52,000,000 pounds (about $208,000,000) and the value of work refused, 24,000,000 pounds (about $96,000,000). The local authorities pointed out that 35,000 houses in the London area were originally reserved for air raid victims, but that the number had been considerablly scaled down since and was constantly under review.

Some idea of the situation existing may be had from examples of the shortage in four representative sections of London and its suburbs. In Kensington, all flat (apartments) except unwanted old-fashioned ones are either fully occupied or requisitioned. There are no small houses to let but plenty of big houses—and nobody wants big houses. In suburban Dulwich, where Dickens once lived and conceived some of his classic stories, there is nothing to be rented at all. Many empty houses are out of repair but could be restored if more than $400 was allowed to be spent on them. In Wembley the only way to get a house or flat is to know of somebody who is moving out and be on the spot ready to step in immediately. In Bromley, another residential suburb, there are some houses available but no flats. The worst housing situation of all exists in Central London and in the service-flat districts of Kensington and Bayswater.

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BAY AREA NEEDS MORE HOUSING

Increased war housing quotas for the provision of housing facilities is necessary in the San Francisco Bay Area.

John B. Blandford, Jr., National Housing Administrator made this announcement as the result of a four day tour of Bay Area war production activities with Eugene Weston, Jr., regional representative of NHA.

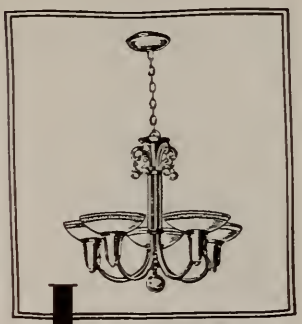
According to Blandford, "the San Francisco Bay Area is one of several places in the country which must satisfy an increasing need for housing from now on."

Among the points stressed by Blandford were:

1. House in-migrant war workers with the minimum use of war materials. Blandford pointed out that while in the past over 8,000 pounds of critical materials were used in the construction of many dwellings, today new public housing uses as little as 2,000 pounds per unit. "This even can be reduced," he said, "through conversion of existing dwellings." He explained that a family can be housed through expenditure of as little as $1,000 through converting an existing dwelling into additional housing quarters as against a new public housing unit costing substantially more.

2. Support of realtors and builders and property owners of the conversion program will justify government increase of conversion quotas. Blandford explained that when a conversion quota is set for an area, materials are reserved for the construction. Large quotas are not established which would hold up large amounts of building materials if it appears that building interests and property owners will not take up the program. But, he pointed out, as more property is converted and the need for housing continues, proportionately larger conversion quotas would be allowed the area.

3. The National Housing Agency is making every effort to streamline application procedures and that much has been accomplished already since NHA has been made a claimant agency for materials and through cooperation of FHA, HOLC and other



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production agencies affiliated with the NHA.

4. Private builders and contractors and communities may look to a continued building program in post war days. Blandford pointed out that there will be much left to do in construction of low income housing to aid members of the armed forces and industrial workers who must be readjusted to peace time conditions after the war and to promote a resumption of normal activities in the building industry.

Blandford expressed entire satisfaction with the progress already made by city and housing officials throughout the Bay Area. He lauded the efforts of war industries in their cooperation with individual communities during this critical housing period.

"On the other hand," Blandford declared, "there is a big job yet to be done and I sincerely hope that all private and public construction quotas allocated are promptly taken up by the home owners and builders.

"I have utmost confidence in the judgment of the National Housing Regional staff in their recommendations to Washington and I believe that through public and private cooperation with NHA officials, necessary housing needs in this area will be met adequately."

1942 CONSTRUCTION FIGURES

War construction activity in 1942, which reached a total value of $12,145,059,000, more than doubled the 1941 volume and amounted to more than 97 per cent of the program for this year.

Direct military construction during 1942 was three times the volume of the previous year, and factory construction was 2½ times the 1941 total. Housing construction in the war production areas maintained the 1941 level, while construction of privately financed factories declined.

The monthly volume of construction, which reached a peak of $1,406,015,000 in August, declined for the fourth successive month to $973,285,000 in December, a 31 per cent drop from the year's high. The decline in monthly volume from November to December was 13 per cent. As an in-

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dication of the trend for 1943, there was a further decline of 8 per cent for January.

As a total, direct military construction in December was 16 per cent under the November figure and the downward trend continued through January. War housing and public works construction dropped from $121,671,000 in November to $121,000,000 in December, a decline of 1 per cent. Privately financed housing and public works construction showed moderate decreases, while government financed war housing showed a gain of 5 per cent.

Activity on government financed industrial expansion, including construction volume and machinery and equipment deliveries combined, which reached a total value of $641,005,000 in November, dropped to $605,458,000 in December, a loss of 6 per cent. The volume of factory construction continued downward, being off 12 per cent from November, while machinery and equipment deliveries showed a gain of 1 per cent. Further increases in machinery and equipment deliveries, and decreases in plant construction, are forecast for the next few months.

LEGAL DECISIONS AFFECTING BUILDERS

(Courtesy Practical Builder)

A contractor had taken a contract to construct two duplexes. The owner insisted on supplying all the required materials since he had already bought and paid for these. One clause of the contract read as follows: "If the said contractor finds that the materials are not supplied as specified herein, he shall notify the owner by registered mail within 24 hours."

A week after starting work the contractor was notified by his foreman that a shipment of brick had not arrived and that they would be held up, for the day at least.

The contractor instructed the foreman to proceed with the work as best he could, promising to get in touch with the owner to straighten out the matter.

The contractor wrote to the owner and claimed the penalty allowed by the contract. Although he instructed his clerk to send the letter by registered mail, this was not done.

The owner received the letter but refused to pay the stipulated penalty contending that it was necessary for the contractor to notify him in exactly the method stipulated in the contract.

When the case was brought up in Supreme Court it was ruled that the owner should pay the penalty; that the method of delivery was immaterial as long as the notice was delivered.

MANUFACTURER WINS OVER CONTRACTOR

A contractor wrote to a manufacturer: "I am bidding on the Ajax Apartments. Enclosed are specifications and list of my requirements. Kindly quote me your lowest prices."

The manufacturer responded promptly and the contractor immediately thereafter submitted his bid, basing his price on the quotations received. Three days afterwards the manufacturer wrote to the contractor, "Owing to the general uncertainty in the supply market, am forced to withdraw my last quotations."

"I bid on the strength of your quotations and my bid has been accepted. I intend to hold you to your offer which you couldn't withdraw when you knew I was bidding on the strength of it," the contractor wrote back to the manufacturer. He sued for damages, but lost.

In deciding in the manufacturer's favor, the court said: "In this case the manufacturer offered to deliver the material in return for the contractor's acceptance, not for his bid, which was a matter of indifference to the manufacturer. That offer (to deliver) could become a promise to deliver only when the equivalent was received —that is, when the contractor promised to take and pay for the material. There is no room in this situation for the doctrine of 'promissory estoppel.'"

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THE KAWNEER COMPETITION

The store front competition recently sponsored by the Kawneer Company and Pencil Points has been judged and according to the latter the designs were far from satisfactory from the viewpoint of newness and originality. Most of the drawings submitted were not unlike what the jury had seen before. Pencil Points asks, "What is wrong? Are we being too captious or too exciting when we expect still greater freshness of invention, still more mature imagination? After all, the architect is supposed to be a creator, an originator."

First prize in the competition was awarded to Seymour R. Joseph of New York; second to Gus Larson and Geo. Storz (designers) of Chicago and third prize to Maynard Lyndon of Los Angeles.

Honorable Mentions went to Stanley Sharp and Jedd Reisner of San Francisco; Donald E. Olsen and Alvin Fingado (designers) of Berkeley while W. R. Smith and R. W. Dickinson of Pasadena came in for "special commendation."

Samuel E. Lunden of Los Angeles was a member of the jury.

JOHN D. GALLOWAY, C. E.

John D. Galloway, C. E., prominent California engineer, and identified with some of the most important engineering projects on the Pacific Coast for nearly half a century, died March 10 in Berkeley. He had failed rapidly since the death of his wife some months ago. He was 73.

Mr. Galloway was born in San Jose and was graduated from the Rose Polytechnic Institute in 1889 with a civil engineering bachelor of science degree.

From 1892 to 1896 he was chief engineer for a general contracting firm. Later he was instructor in drawing at the California School of Mechanical Arts. In 1900, he started a private practice which continued to his recent ill health.

He was an Army major in World War I. Among the many projects included in his private practice have been the San Mateo bridge, the stanislaus, Las Plumas and Moccasin hydroelectric plants, the great Shasta Dam and the Coyote Dam. He was one of three engineers named to study several plans to bridge San Francisco Bay.

Mr. Galloway was the only man ever to receive the Thomas Fitch Rowland engineering prize and membership in the American Society of Civil Engineers simultaneously. Other organizations of which he was a member were Astronomical Society of the Pacific, Society of American Military Engineers, Seismological Society of America, California Historical Society, Bohemian Club, Commonwealth Club and the Lick School.

FENESTRA WINDOW COMPETITION

Now the Detroit Steel Products Company has joined the competition sponsors. It is calling for a "better post-war window for (a) hospitals and (b) small houses. Cash awards will total $2,000. Competition closes March 26. An all-Eastern jury will preside.

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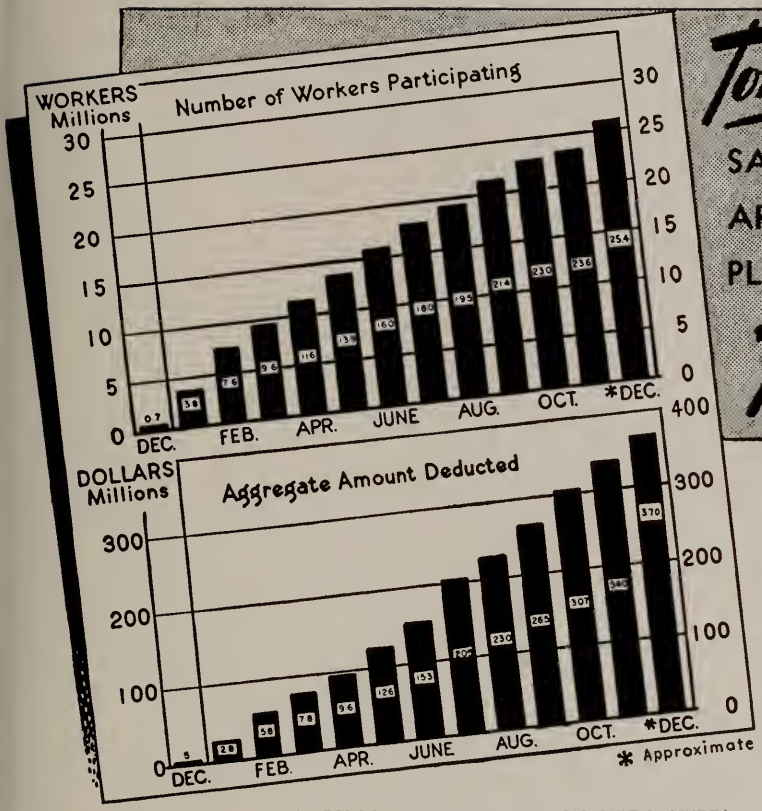

Tomorrow's SALES CURVES ARE BEING PLOTTED . . . Today

THESE CHARTS SHOW ESTIMATED PARTICIPATION IN PAYROLL SAVINGS PLANS FOR WAR SAVINGS BONDS *(Members of Armed Forces Included Starting August 1942)*

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Think what this money will buy in the way of guns and tanks and planes for Victory today—*and mountains of brand new consumer goods tomorrow.* Remember, too, that War Bond money grows in value every year it is saved, until at maturity it returns $4 for every $3 invested!

Here indeed is a solid foundation for the peace-time business that will follow victory. At the same time, it is a real tribute to the voluntary American way of meeting emergencies that has seen us through every crisis in our history.

But there is still more to be done. As our armed forces continue to press the attack in all quarters of the globe, as war costs mount, so must the record of our savings keep pace.

Clearly, on charts like these, tomorrow's Victory —*and tomorrow's sales curves*—are being plotted today by 50,000,000 Americans who now hold WAR BONDS.

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ARCHITECT AND ENGINEER

APRIL, 1943

Prefabrication and Good Architecture

U. S. Naval Hospital, Long Beach

Houses for Human Beings

THE CUSTOM PRE-FABRICATED HOUSE IS HERE

TWO OF 200 PRE-FABRICATED DWELLINGS AT BENICIA, CALIFORNIA

The Benicia houses, pictured in this issue, while pre-fabricated, were studied and planned by Architect Russell G. de Lappe with the same careful attention to individual needs and good design as would be given a privately built home. The Benicia project has four distinct types of houses with fourteen different floor plans. Custom-built houses, like these, may be finished in fifteen days, later may be taken down and put up somewhere else with less than 5% loss.

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ARCHITECT AND ENGINEER

APRIL, 1943

Vol. 153 No. 1

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NEXT MONTH

Post-war schools is a subject that is going to demand a great deal of study and thought by architects from this time on. There will unquestionably be some important changes in design and equipment. Already many of our schools give evidence of needs for replacements, modernization, repairs and new facilities. New building methods and the acceptance of substitute materials will have an important bearing on post-war school house planning.

Featured next month in this magazine will be some of the recent schools of Ernest J. Kump and Associates, including the Wasco Union High School, the Exeter Union High School, Ducor Union Elementary School and the Carmel Unified District School. Plans and descriptive matter will accompany a generous collection of excellent photographs, and text matter by J. L. Reid, a member of Mr. Kump's staff, who will discuss post war school planning as he sees it, will round out an issue of exceptional interest.

Another May feature will be a timely article by Cyril Ainsworth on "Correct Lighting Protects Against Sabotage," being an outline of present day requirements for protective lighting of industrial plants.

* In military service—Lieut., U.S.N.R.

ELECTRICAL SERVICE— FIRST ON YOUR LIST

The architect's testing time comes after a client has lived in the new home for a while. It is when the owners begin to find flaws of imperfect planning, such as faults in planning the electrical service

If the home has few or no servants, the owners soon discover if electrical outlets are missing where they are needed, or if outlets or switches are inconveniently placed. Just one or two experiences of having to disconnect the radio or electric clock in order to use the vacuum cleaner or having to crawl under or move a heavy piece of furniture to connect or disconnect a lamp or appliance — and the architect has come under severe criticism.

Whatever the architect's plans of the future call for, one thing is certain, and that is that electrical service will be at the top of the list of important considerations in home planning.

Haphazard placing of outlets and switches, and miserly scattering of outlets, will not be tolerated by those with the discrimination to have an individually built, architecturally designed home.

This is an excellent time to study electrical service planning — to keep an eye on the electrical developments of today. Today's novelties will be standard equipment when you start blueprinting for the new homes of the electrical era.

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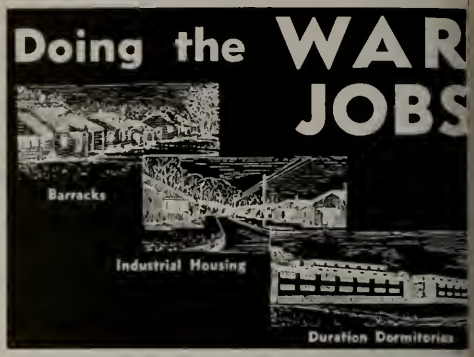

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RUNNING FIRE — by MARK DANIELS

• *"AFTER US THE DELUGE"*

After years of storming the aesthetic front, the antis have finally taken that salient so heroically defended by the architects during the Mid-Victorian campaign. The antis, and by that I mean that mass of people who are anti anything that might justify the existence of what is now known as an architect, have so swept the field that they are proposing legislation aimed at the all but abolition of the architect as he now practices his profession. If the numerous bills that are now before the California State Legislature relating to the practice of architecture are enacted into law, this long controversy will be swept along in the flood with other deteitus of professional ideals.

When Madame de Pompadour cried out, "Apres nous le deluge!" she, as well as Louis XV, knew that they themselves had moved the key-log. And so may the oncoming surge be laid at the door of the architects themselves for, judging by some of the work, civilization no longer needs such a profession. Further, so much of the work that is called architectural bears such similarity to the work of engineers, ship builders and traffic experts, that the public hardly can be blamed for concluding that either we no longer need architects or we have none.

And so, if this be the state of public opinion all this hubbub at the state Capitol would seem to be superfluous, or a bit late.

• *TWO VIEWS*

The various pictures of what this country is going through and what it looks like today have finally crystalized into two general and opposed ones. Here is a brief of one that lies on my desk:

Cities and towns war-swollen; women, children and war workers huddled by the roadsides in tents; workers driven from place to place seeking shelter; cities, and in fact the whole country, altered by rising factories; revolution, industrial and perhaps otherwise, threatening over night; victory gardens destroying our landscape; cantonments, bomber bases, aircraft, ship building, steel and magnesium plants ruining our country side; speculative builders capitalizing the calamity; every nook and cranny crammed with workers.

Well, that's one picture from a current publication. If it is not yours try this one:

Labor at last taking its hard earned place; children wearing good clothes; hundreds of thousands of small, growing bank accounts; law to protect the workers; no more evictions; no bread lines; the hum of activity on all sides; shops full of people; new, clean houses for workers; dawning industrial peace; better schools filled with happier children; controlled prices; a better distribution of wealth.

How a picture is going to look depends upon where you sit—and—whether you wear dark glasses.

• *FORESIGHT AND HINDSIGHT*

Personally I get a little bit fed up on all these things that could be avoided by "just a little foresight". Certainly, within reasonable limits, forethought and planning can eliminate much waste and trouble, but when it comes to planning for future conditions about which we know nothing and can know nothing it often makes nothing but grief.

In England the roads came before the railroads which obviated most of the death dealing surface crossings that have been so disastrous in the United States, but air transportation may obviate both and no amount of foresight could have helped that. Wireless transmission of power seems to be in the offing. We might plan for it but before it happens we may insulate gravity. If Steinmetz had lived a few years longer we might be a lot closer to that. Ruml nearly put his plan over. Who knows but we may someday live in a taxless age, but I don't think we ought to plan for that either.

• *RATIONED READING*

As evidence that the publishers are doing their best to get into step with the O. P. A. is the fact that some have adopted an eight point agate.

• *THE MESSAGE OF MADAME CHIANG*

The burden of the message that Madame Chiang Kai-shek brought to us was beautiful and general. True, she resorted to an occasional specific statement but the general effect was that of a series of more or less baccalaureate sermons on the principle of true human relations which were not entirely new to most of us. True, they had a sort of Confucian flavor but even those sounded slightly as if they had been learned in this country.

This is not to decry in any way the charm of her song or the fervor with which it was delivered, but in the capacity of an emissary from one country to another some of us hoped to hear more about the country whence she came. The Manchurian question, the attitude of her people toward the Manchukuoan situation, the degree of unity that may exist between the various provinces of China, are subjects upon which all of us would like to be further enlightened. Most of us think that in China there is about the same feeling between the north and south that existed in this country shortly after the Civil War. Neither we, nor any other people, can be told too often that the question of creed or color cannot be allowed to enter too strongly into the considerations of human relations, and that holds doubly true in our relations with China which we have always loved and are learning to respect more each year that passes; but we would also like to know more about China's intimate problems, how she is going to handle the unification of that great polyglot nation, how we can help most effectively, for help we will, now that China's first lady has talked to us in person.

• *BOUQUET*

Editor, Architect and Engineer:

I have been receiving copies of Architect and Engineer and am truly delighted with the magazine. . . . the whole format and content is fascinating, not only to the engineer but to the layman.

I particularly was interested in Sally Carrighar's article, as the FHA is building precisely the same dormitories at Fort McClellan where I am employed as draftsman. The issue circulated freely among those in the office of the Area Engineer and evoked much appreciative comment.

Sincerely yours,
KATHLEEN SUTTON.

Anniston, Alabama

AMERICAN PENWOMEN SPONSOR ARTS AND CRAFTS SHOW

Drawing unusual public interest at the De Young Museum this month is the annual exhibition of arts and crafts by the San Francisco Branch of the League of American Penwomen. In contrast to its former annuals, the League this year carries an equal quantity of "masculine" art having opened its show to the works of artists now in the armed forces. Oils and watercolors form the major portion of work by members of the League, the S. F. Branch of which is headed by Mrs. R. C. Ray. Contributions from soldiers, sailors and marines include everything from rough charcoal drawings and cartoons to examples of all the painting and graphic art mediums.

Through the cooperation of Mr. Charles Cooper who has drawn from the results of the weekly sketching and painting classes at his Arts Personal Contact Bureau, Jean Turner, Art Chairman of the Penwomen, and various service clubs such as the USO and the National Defenders' Club, the works of these service men have been gathered for the show. Awards are being made to exhibiting artists by a jury composed of E. Bruce Douglas, Jules Pages and Captain Paul Williamson.

The two exhibitions—the one devoted exclusively to work of the Penwomen themselves, the other representing artists in the armed forces—will remain on view through April.

DAVID SCOTT, ESQ. OF DUNNIALD,
by George Romney (1734-1802)
A recent acquisition at the de Young Museum

ALBERT M. BENDER MEMORIAL GRANTS AGAIN BEING CONTESTED

The San Francisco Art Association has announced two grants-in-aid from the Albert M. Bender Memorial Fund to be opened to competition on May 1.

The grants are in art and literature. Each is worth $750 for the year 1943-44.

The competition will be confined to persons of at least two years' residence in the San Francisco Bay Area. They are without restriction as to sex, race, color or creed, and for work which it is assumed will be completed within the grant period of one year.

Applications for the grant in art should be limited to the fields of painting and sculpture, said Eldridge T. Spencer, president of the Association.

Works in creative writing may cover a broad field, provided they are not of a reasearch character. Information and application forms may be obtained from the San Francisco Art Association. All entries must be filed by May 1.

Winners of the first awards, in 1942, were Richard E. O'Hanlon, art, and Jeanne McGahey, literature.

ANCIENT GREEK ART AT THE M. H. DE YOUNG MUSEUM

Idealism and Naturalism in the Art of Ancient Greece, the second in the educational exhibition series reviewing the history of art, was on view at the De Young Museum, San Francisco, the first half of the current month. The exhibit, illustrated through photographs and explanatory labels, certain aspects of the life and art of the Greeks and the contributions of this ancient culture to subsequent civilizations.

In conjunction with this exhibit, Miriam Sweeney, Acting Educational Director, gave a gallery talk on Saturday, April 10th. She described the Greek tradition as it has influenced art and taste since the fifth century, B. C.

EARTHQUAKE AND FIRE PHOTOS AT THE LEGION OF HONOR

The California Palace of the Legion of Honor has fallen heir to some 200 of the late Dr. Arnold Genthe's negatives and has reprinted 39 of his San Francisco fire series for showing at the San Francisco Palace this month. As sheer photography these remain among the finest plates of all time, and as documentation of the disaster they are beyond comparison. Their sharpness and definition and power may be due to the fact that Genthe did not have time to make them "pictorial" after the

HOT JAZZ AT THE SAN FRANCISCO MUSEUM OF ART

DRAWING BY JAMES McCRAY

impressionistic fashion of that time. At all events they are works of extraordinary virtuosity.

The Legion is also showing marines by Leon Lundmark, conventional but sometimes not ineffective, and paintings by Martin Baer of Carmel. Baer has painted all over the world, and seems to take special pleasure in subtropical landscapes and in Latin types and characters.

HOT JAZZ SERIES TO TERMINATE WITH CONCERT COUP IN MAY

The series of programs of authentic Hot Jazz at the San Francisco Museum has been drawing record crowds for the past two months. Encouraged, the Museum plans the final coup for May. For this, the world's finest jazz musicians will be assembled for the first time in more than twenty years. The Museum has gone to a great deal of trouble to locate these men, many of whom had sunk into relative obscurity when the commercial forms of Tin Pan Alley took over the stage of popular music. They have been discovered in various parts of the country and will be imported for this historic occasion. Together they will be presented by the Museum in concert, perhaps for the last time in the history of this significant phase of American music. The date of the concert will be advertised.

SUGGESTIONS FOR A "SAFETY TOWN" BY UNIVERSITY OF CALIFORNIA STUDENTS

During April the San Francisco Museum of Art is showing two proposed solutions to two important problems of modern city design. Cities, as Giedion has said, are more than masses of stone. They can be a great deal more than they are today, as everyone knows. But if the huge areas of rubble and blight which have developed as much from prewar neglect as from bombing are to be wiped out, how should we go about it? Let us think now of intelligent replacement.

The Museum shows demonstrate thoughts about replacement; they approach two problems among the many. There has been much comment in the south about Carl Troedsson's "Safety-Town". Troedsson devised two systems of traffic, one for pedestrians, the other for vehicles. All points of the community may be reached by either one, but neither system meets the other. People can walk to business and never see a crowded thoroughfare. Children never need to cross the path of motor traffic. Here playgrounds are located for both young and old, and small neighborhood plazas afford outdoor peace and relaxation. For motorists the right of way is swift, clearly defined and unobstructed by pedestrians and playing children.

At the San Francisco Museum the plans for "Safety-Town" are supplemented in the exhibition by suggestions for ameliorating the problems of the twenty-five foot lot both in individual cases and in street treatment as the speculative building of row houses. These suggestions were prepared by

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students of the Department of Architecture at the University of California under Howard Moise.

Both schemes will be on display through May 2.

DR. JERMAYNE MacAGY NAMED LEGION OF HONOR ACTING DIRECTOR

The Board of Trustees of the California Palace of the Legion of Honor have announced the appointment of Dr. Jermayne MacAgy as Acting Director in the absence of Thomas Carr Howe, Jr., now serving as a lieutenant in the United States Navy

Dr. MacAgy became associated with the California Palace of the Legion of Honor as assistant instructor in 1941, coming West from the Cleveland Museum of Art. She is a graduate of Radcliffe College, and later carried on special graduate work at both the Fogg Art Museum and Western Reserve University. One of the youngest women to fill the important post of Museum Director, Dr. MacAgy was born in 1914 in Cleveland, Ohio.

JUNIOR COLLEGE ART SHOW

Another "annual" to appear on the De Young walls this month is the 8th Annual Exhibition of Fine and Applied Arts by students of Northern California Jr. Colleges. Art students from San Mateo, Marin, San Francisco and Salinas are represented. Sponsored by the art section of the Northern California Jr. College Association, of which Miss Donna Davis is chairman, the present showing includes examples of graphic art, photography, ceramics, wood carving, metal craft and jewelry, and textile weaving. In spite of the problems arising from a younger generation training for war, the current Jr. College Annual has managed to maintain its fine selective standard of former years.

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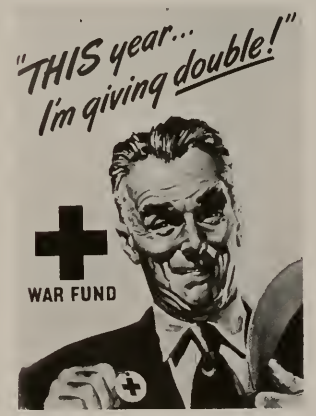

The U. S. Navy Hospital, Long Beach, California, Claude Beelman, Architect

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How steel-framed buildings stand up under bombings

THE bomb exploded right at the corner of this building. Two of the main steel columns were sheared off—but the structure did not collapse. Most of the damage was localized in the first floor. This shows how fully steel-framed buildings resist the wholly unpredictable stresses resulting from bomb blasts —even under direct hits.

The photographs shown here are only two of 47 similar ones received from England which show steel-framed buildings hit by bombs, but not demolished. Note also how the steel window sash has withstood the blast of the bomb, most of it remaining intact.

Here is a quotation from the report of the British Steelwork Assn., which collaborated with the British Government authorities in studying this modern structural problem:

"The fully steel-framed building has suffered only to a very minor extent and has shown remarkable resilience, which has tended to localize the damage. This local damage, in many cases, has been subject to rapid repair."

These results indicate that the American type of skyscraper is a very safe structure. London authorities wish they had more of them.

Attention is called to the value of soundly jointed structures which are able to resist both the inward pressure of the explosion and the outward pull of the suction. This is particularly recommended in the case of main beams in single-story factory construction where prevention of "spreading collapse" is desired.

Lessons learned from this war point to a greater use of steel for all types of structures in the future.

1. *Steel-framed structures ha the ability to withstand seve punishment from bombing wit out disintegrating as is the co with plain masonry structure*

2. *Close-up view shows ho bomb struck the corner of t foundation of this steel-fram apartment building. Two ma columns were blasted away b the damage was localized in t first floor.*

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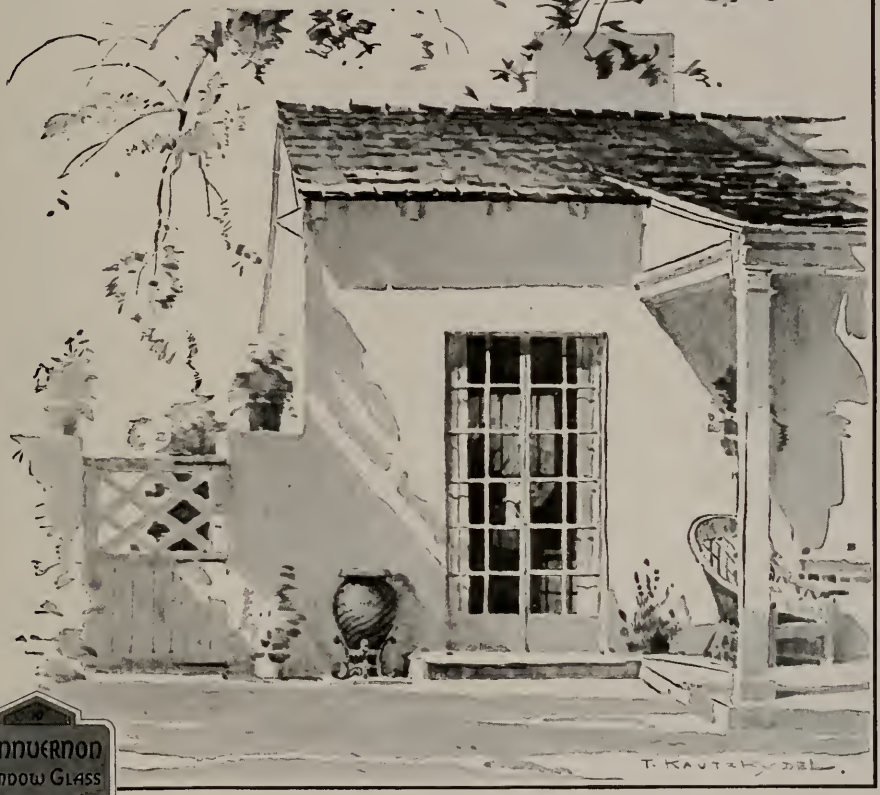

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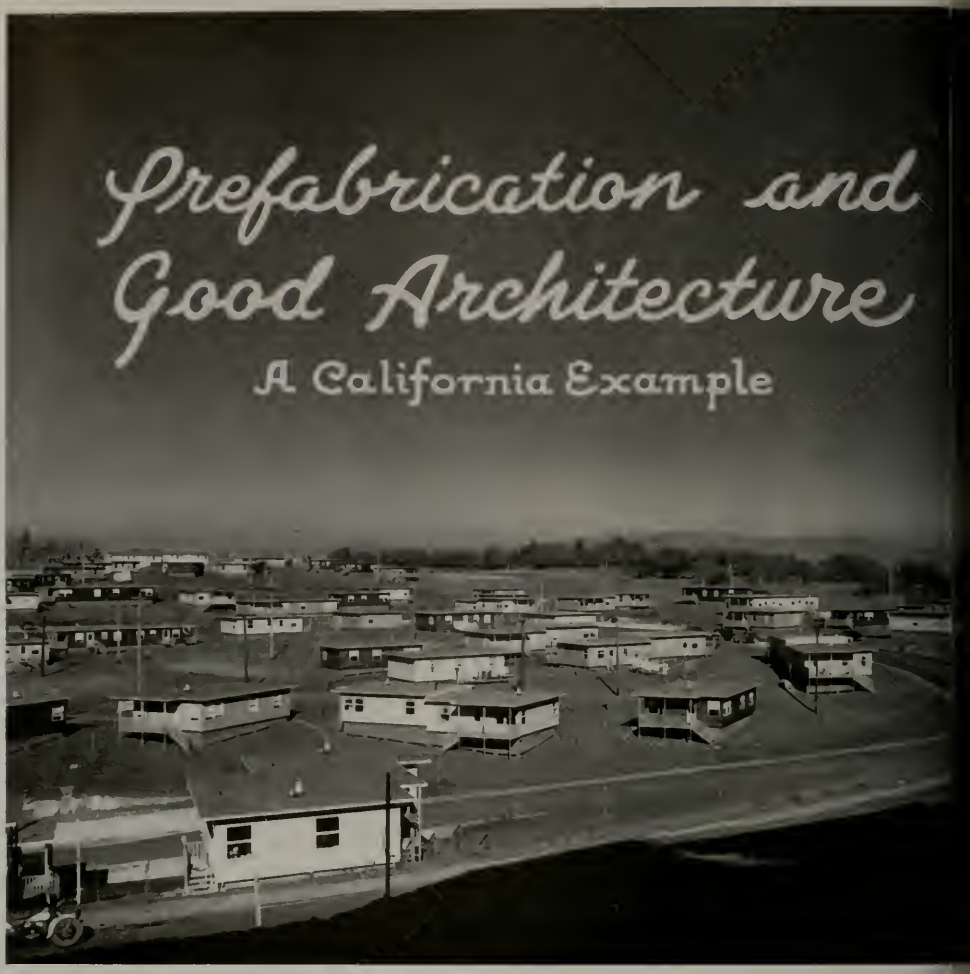
Prefabrication and Good Architecture

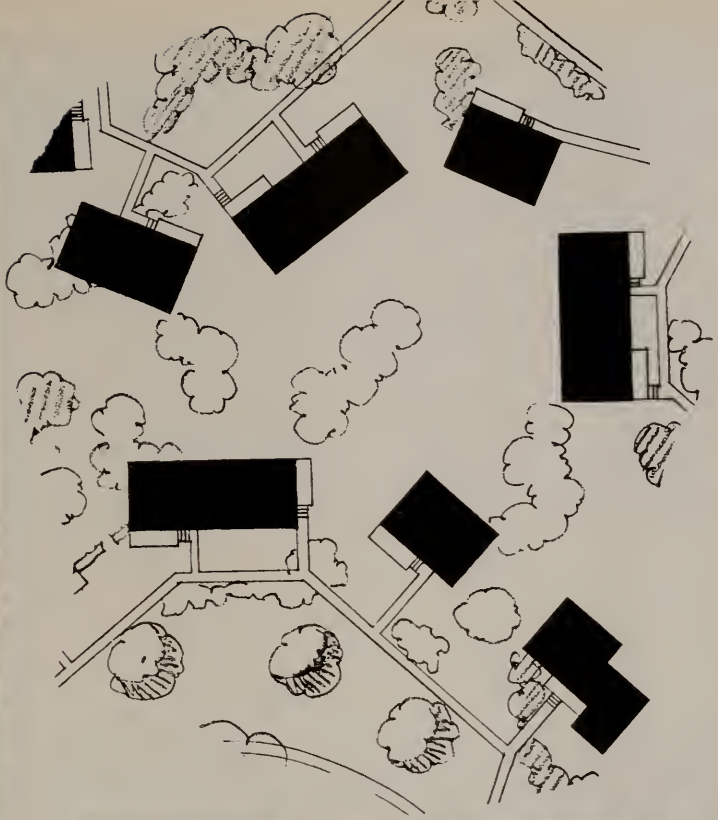
A California Example



By SALLY CARRIGHAR

The other day we were thinking that "prefabrication" can mean a prebuilt cupboard or a mail-order house, and that this type of construction would benefit by a larger vocabulary. Then Mr. Martel Wilson came along with a donation: "custom-built house." As he uses it, the phrase isn't a phony snob-label. It has the literal meaning of "custom-built"—built in a factory **to the customer's specifications.** A custom-built house is an entire house, so completely finished at the factory that it can be put up in half a day at the site—but **your** house, from the Dutch door your wife wanted in the kitchen to the special cupboard for storing your ski equipment. It is a kind of prefabrication that not only tolerates the private architect, but requires his help.

Mr. Wilson and his associates were producing custom-prefabricated houses in Stockton before the war, as early as 1936, long enough to prove that such houses may be finished in 15 days, and from 5 to 10 per cent more economically than houses built on site. (There is another advantage to a custom-built house: it can be taken down at any time and put up somewhere else with a loss of only about 5 per cent of the original cost. To be able to move around and take your house with you may be desirable in the post-war world.) More than 300



FRANCESCA TERRACE, war housing project at Benicia, proves that it is possible to get the economies of mass construction without monotony. Credit to the staff of the Federal Public Housing Authority, to Architect Russell G. deLappe, and to the Central Lumber Company of Stockton, prefabricators with experience in custom-building. All shared the wish to give each of the 200 dwelling units individuality; all contributed ideas for doing it.

Right—An effect of rural freedom was gained by placing many houses away from streets, on walks of redwood planks.

Above—Detail of plot plan.

of the Wilsons' Central Lumber Company houses are scattered around the Sacramento-San Joaquin Valley, undistinguishable from other houses built to architects' plans.

A house-factory like the Central Lumber Company could, of course, turn out duplicate structures if any customer wanted them. A customer that did, Uncle Sam, soon came along. For the present, the Company's true custom-building is over-shadowed by mass production, but even so, in its 200 products at Benicia, certain phases of the custom-built method can be observed. (Turn to Page 19)

FRANCESCA TERRACE -- BENICIA CALIFORNIA
RUSSELL G. de LAPPE -- ARCHITECT

IMAGINATION WENT INTO THE PLOT PLAN. THE SITE, RATHER THAN THE RULER, DETERMINED THE PLACING OF EACH HOUSE, SOMEWHAT COMPLICATING THE PREFABRICATION.

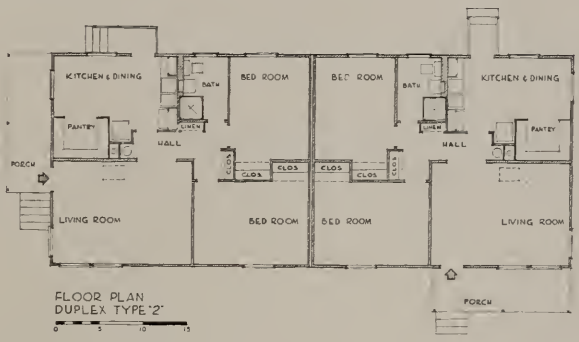
EXTERIORS ARE REDWOOD SIDING, FACTORY-FINISHED, SOME WITH PAINT, SOME WITH PIGMENT STAIN
Russell G. de Lappe, Architect

COMMUNITY CENTER—BUILT AT THE SITE BY CONVENTIONAL CONSTRUCTION
Russell G. de Lappe, Architect

FLOOR PLAN
DUPLEX TYPE "I"

Floor plan shows that usually a porch extends across the front of a Type 1 duplex. The stairway arrangement here, by which the plan was adapted to a steep hill, gives distinction to this house. Even such variations were plant-fabricated.

In the Type 2 duplexes, entrance of one unit is on the side. The simple shifting of a few elements resulted in 14 different floor plans. But arrangements of kitchen and bath are uniform, varying only in size. Note that utilities are adjacent.



CENTRAL PARKING AREAS ARE PROVIDED FOR HOUSES BUILT AWAY FROM STREETS.

Each wall was factory-built as a unit, complete with windows, doors, electric fixtures, interior and exterior finishes. Floor sections were delivered with underpinnings, ceiling sections with roof sheathing.

Uncle Sam's agent was the Federal Public Housing Authority, and the architect on these 200 dwelling units was Russell G. deLappe. The order was not literally for 200 duplicate houses. There are 18 units of 3 rooms, 122 of 4 rooms, 68 of 5 rooms, and 9 of 6 rooms. In order to avoid monotony, the architect specified front entrances in some cases, side entrances in others; some on the left, others on the right. Exterior finishes vary, but that detail didn't call for any difficult adjustment in the manufacture. All living rooms face front, and all houses are identical in the arrangement of the kitchen, bath and back porch, although the size of these elements is determined by the number of bedrooms in the unit. Foundations could not be uniform because the site is hilly and the planners made every concession they could to the irregularities in contour. Altogether, 14 different floor plans were used.

Those were some of the special conditions to be met at Benicia. Bids were thrown open for both the conventional type of construction and for prefabrication. The Central Lumber Company, with Claude T. Lindsay and Martel Wilson as prime contractors, won a negotiated contract for $728,000, a figure that made an average unit at Benicia cost $2,495, or $777 per room excluding grading, streets, landscaping, and gas, electric, sewer and water distribution systems.

Claude T. Lindsay is known in the San Francisco Bay Area as one of its more successful residential contractors and operative builders. Use of his organization at the job site admittedly was a contributing factor in speeding up the Benicia project.

The purchaser of a custom-built house gets whatever kind of construction his architect specifies. Those at Benicia have been built with studding, framed windows, and such conventional exterior surfaces as redwood siding. Martel Wilson has made a hobby of airplane design, and has built some houses for himself in which the aeronautical principles of strength-with-lightness have been applied and thoroughly proven in principle.

A custom-prefabricated house is built in wall, floor and ceiling sections. In the case of a wall, a section includes 2x4 or 2x3 studding, both sides of the wall, and the finishes. Interior walls at Benicia were of white pine plywood covered with a flat oil paint. Papered or painted walls are equally practical and a variety of exterior wall surfaces is available. The foundation for the wall surfaces is Homasote building board, used on both sides of the studding and preferred because it is strong enough to

ALL THE EARMARKS OF A PRIVATELY BUILT DWELLING

be practical in sheets up to 8x14 feet. In some cases additional material is applied over the Homasote board; in others the finish goes on the board itself, which has a texture suggesting fabric and is said to be waterproof.

When a wall section is built at the factory, all its details are incorporated: windows, doors, special features like cupboards—even a jog if there is one. A small closet is built as a detail on a wall. A large one is delivered with separate wall sections of its own.

The floors in one of the custom-built houses are even more conventional in construction than the walls. They are made complete with supporting girders, ready to be laid on the foundations. Most floor sections in the Benicia houses were 4x12 feet. Girders outlined these sections, which had internal support in the form of 2x4's on 16-inch centers, laid on ledger-strips. When the floor sections were erected at the site, adjacent girders simply were bolted together and fixed to the concrete piers.

If a custom-built house has a flat roof, ceiling sections include the roof and its supports. The roof supports in the Benicia houses were 2x4x12's, split diagonally, which gave a 4-inch fall on a 12-foot line. These overhead sections were delivered with roof sheathing and a mineral surface was applied at the site. But many of the custom-built houses have had gabled roofs specified. In such cases, the ceiling is delivered as one unit, and the roof as another. Shingles often are put on at the plant. Tile, however, is laid at the site, after the house is up.

Most trim and all hardware are added during the manufacturing process.

The feature of working where there are central stocks of materials accounts for part of the economy in custom-building a house. It never would occur to anyone wanting a custom-built car that he should order mechanical parts, paint, upholstery, trim, etc., from different firms and then employ an automobile-builder to come to his premises and put these elements together. Even the most special automobile job is produced at a factory. It seems that the same principle may apply in house-building. Apparently a house of even a highly individual design can often be put together most economically at some point where all the materials for production have been concentrated.

The efficient use of labor also helps to hold the cost down. In a plant like the one at Stockton, various parts of a house can be produced simultaneously. No one group of workmen has to wait for others. When all the wall, floor and overhead sections are finished, they are stacked in the order in which they will be assembled, and so delivered. The Benicia houses stand on concrete piers. The piers were precast ahead of the other elements and put in place. There are special efficiencies at the stage of erecting a custom-built house, as well as in fabricating it.

It isn't quite true that a "house factory" can take any plans whatsoever, and 15 days later deliver that structure. At the present stage of prefabrication, some cooperation on the part of the architect is necessary, and probably it always will be. For example, an architect can't order a wall more than 14 feet long without a joint in it, although longer walls can be made and delivered if a seam is specified. The architect must keep in mind the module, as well as his client's choice in kitchen doors.

The module is so closely related to technological methods that it probably will remain a factor of custom-built prefabrication, and may seem the greatest limitation to an architect who likes to design with a free hand. However, it is one of the chief reasons why the Stockton factory claims that it can produce more house for the budget than is possible with site-construction. The houses are fabricated on tables, which are marked off in 3- or in 4-inch modules. "The workmen can throw away their rules, for the tables furnish them with their guides," explains Mr. Wilson. The process makes it necessary for all the dimensions, including details like windows and doors, to be in multiples of 3 or 4 inches. The 3-inch module was the one used in the Benicia houses. Whether it is 3- or 4-inch is determined by the studding—2x3's, or 2x4's. By adapting his plans to these measurements, the architect helps to lower the cost.

No one in the employ of the builder says that all the processes in custom-building have been worked out to 100 per cent satisfaction.

(Turn to Page 22)

HOUSES OF THE FUTURE

By MARY BRADLEY

First woman architect to be appointed to the staff of the British Ministry of Health is Judith Ledeboer, best known for her exhibits in pre-war building trades' exhibitions and during this war for her designs for nursery schools. One of her main tasks is to act as joint secretary of a special committee—comprising architects, engineers, sociologists and builders — which is working for the Ministry of Health on the future design of houses and apartments, key problem of post-war reconstruction.

Tall, serene Miss Ledeboer never intended to be an architect. At Cambridge she graduated in history, and then as teaching or research did not appeal to her she went to the United States where she took an economics degree at Harvard. Still interested more in the practical problems of living, Miss Ledeboer decided she was "not getting down to the drains of the business' and ultimately, in 1930, passed out of the British Architectural Association's school an A.R.I.B.A.

1931 was not an ideal year to begin practice as an architect, but after working for some time in other people's drawing offices, Judith Ledeboer put her own name on her own door and found a steady flow of commissions coming her way.

From her London offices, first in St. James's, then in Bloomsbury, she and her staff worked on flats and cottages, housing estates and reconstructions. She became a Fellow of the Institute of Landscape Architects, worked at the Housing Center (voluntary "ginger" group to improve inexpensive housing) and was three times invited to prepare the feature "New Homes for Old" at the Building Trades' Exhibition at Olympia.

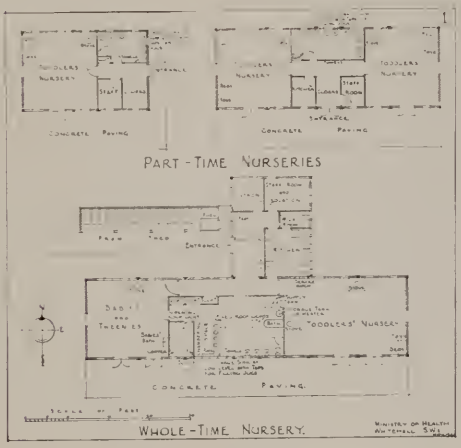
In the 1934 show she took a block of slum property due for demolition and removed it as it stood to Olympia, placing it beside a model home. Exhibits of this kind awakened the British public to what could be done in housing. At the 1936 exhibition she arranged a special feature linking town-planning with housing and followed up in 1938 with an exhibit on rural housing.

That was the last show of its kind, but in 1940, before wartime restrictions came into force, she won with George Fairweather the Royal Institute of British Architects' Wartime Industrial Housing Competition.

Large-scale evacuation of children from danger areas brought her a new type of work. The Nursery Schools' Association decided to build schools for under-fives in areas to which large numbers of children had been evacuated. Billeted on householders in rural areas, these children badly needed freedom and facilities for play under trained nursery school workers.

Miss Ledeboer drew up in collaboration with nursery training experts standard designs for inexpensive, quickly-constructed day nurseries which could be reproduced all over the country. Prefabricated standard units were used, a great economy since so many were already being produced for Service and industrial needs. With very small modifications these same Service units could be assembled into ideal nurseries.

Six nurseries of the type were built, one subsidized by the British War Relief Society of America and another by the Save the Children Federation. Ex-Governor Henry Allen of Kansas inaugurated the latter nursery at Amersham, Buckinghamshire, during a visit to Britain last year. Nurseries were planned to take forty or fifty children.



Judith Ledeboer's designs for this voluntary organization interested the Ministry of Health, who used similar standard prefabricated units in their own plans. A thousand of the Ministry's nurseries are contemplated and many of them are already in use. As in the case of Miss Ledeboer's nurseries, they are transported in sections to be set up on a concrete foundation already prepared. The assembly from detailed instructions takes about three weeks.

Housing design for post-war England is the business of the committee of which Judith Ledeboer is joint secretary, which, although it contains other women housing experts, numbers no other women architects. Her work, as far as she can see in this early stage, is to help lay down basic principles. Practical details naturally will vary with post-war conditions: availability of material, finance, distribution of population, place (if any) of private ownership, and so on.

The future homes of Britain will, if Miss Ledeboer has any say, combine the best elements of British and foreign housing. On the planning side her own feeling is that the American "green belt" scheme might well be adapted to British town planning. She would like to see household equipment of American standards available to the average British housewife, and also some form of central heating. The sleeping porch—practically unknown in England—has already appeared in one of her reconstructions.

Miss Ledeboer is, however, personally convinced that public interest and demand must be the first consideration. Some people will prefer to live in blocks of flats; others will choose garden suburbs. Some will want to live near their work; others will prefer to get right away. There should be no official campaigning for what people "**ought** to like" for economic or other reasons.

Side by side with this policy it will be necessary to show the public what can be done for the money available; how many so-called "essentials" are not really so; and how, by mass production, equipment and fittings can be available that never were before.

A step towards building up this public consciousness has been the book, "Houses We Live In," which Judith Ledeboer edited for the Ministry of Health. Published in May, 1939, it sold 11,000 copies; it showed comparative illustrations of well and ill-planned houses. It was entirely composed of pictures with only caption comment, and seemed on the surface simply a lesson in good and bad design; actually, it showed clearly that economy and suitability tend to produce houses that look good.

It is because of this broad interpretation of its functions that the Ministry has appointed the committee with its experts in design to watch the interests of the people in large-scale housing schemes throughout the country after the war.

PREFABRICATION AND GOOD ARCHITECTURE

(Continued from Page 20)

For one thing, the fabricators are having to develop new degrees of precision in construction methods, and to teach them to the craftsmen. There is no profit in manufacturing houses if sections have to be made over because they didn't fit together perfectly when they arrived at the site. With precision so important, machine methods are favored wherever it is possible to use them. For such machine methods, some materials are more practical than others. The help of architects in visualizing the possibilities would be valuable to the fabricators.

It seems certain that many people will live in prefabricated houses after the war. Then the danger will be that the requirements of machines, rather than the aesthetic needs of human beings, will determine what the houses are like. There will be pressure for the architect, even of custom-built houses, to conform to the machines. But machines can be changed. Maybe architects should design the machines, if that is the only way to secure flexibility and beauty of design in factory-produced houses.

Or perhaps there should be an effort to convert all fabricators to Martel Wilson's creed: that the method should be adjusted to the design, rather than the design to the method, wherever possible. If the future would bring forth only houses as good or better than those at Benicia, there would be nothing much to worry about.

eneral view of Naval Hospital, Long Beach, California. Courtesy Southwest Builder and Contractor

ONG BEACH HAS BEST EQUIPPED NAVAL HOSPITAL IN U. S.

ictures of the recently completed and occupied U. S. Naval Hospital at Long Beach, California, have been released by the Navy and they show a well balanced group of structures, impressively simple in design nd functional to meet the exacting requirements of Uncle Sam and the California State Building code. Accenuated vertical lines relieve the plainness of the exterior walls of the main building.

A five-story reinforced concrete administration building dominates the group which includes a subsistence ing containing mess hall and galley, ship's stores, recreation and assembly hall, library, games room, coffee hop, barber shop and chaplain's office. Extending approximately two stories above the deck of the mess all is an auditorium or assembly hall, equipped with stage and moving picture booth for entertainment. On he top floor are three well lighted and air conditioned operating rooms.

Power plant, laundry, shops and garages are housed in a separate structure in the rear. Other buildings n the grounds are the nurses' quarters and the corps men's quarters.

All of the buildings are Class A reinforced concrete construction except the nurses' building, which is Class B with reinforced concrete frame and exterior walls, wood floors and roof. The corps men's building is Class C, with concrete walls and roof and wood interior.

The Class A buildings are standard structural design with beam and slab floors and roofs, conforming o state regulations for earthquake esistance. Exterior walls were poured gainst plywood forms for exposed urfaces which are divided into square anels by depressed joints formed by leats on the forms. All windows have teel sash, and doors have hollow metal ambs. Integral waterproofing was nixed with concrete in exterior walls. All the buildings have flat roofs covered with tar paper and gravel roofing, except the nurses' building, which has a itched roof with shingle tiles. The powerhouse and laundry have steel decks.

Main entrance to grounds, U. S. Naval Hospital, Long Beach.

The ward buildings provide a most

U. S. NAVAL HOSPITAL

Long Beach, Califarnia

Claude Beelman, Architect

R. E. Campbell, General Contractor

Above—Administrative unit, showing details of architectural concrete. Ornamentol design cast in waste moulds.

Right—Entrance marquise. Canopy with skylight rests on cylindrical steel blocks set free on granite piers.

Looking through circular glass enclosed stainless steel entrance vestibule in main lobby.

interesting contrast to civilian hospital planning. Each floor is a self-contained hospital unit. The open ward has 28 beds ranged on either side of a central aisle. The floor is terrazzo except for the aisle, which is covered with asphalt tile for quiet movement through the ward. Adjacent to the open ward are four quiet rooms with beds; solarium, doctor's office, nurses' room, laboratory, and other facilities.

With all proportions in scale, the interior of the hospital has a very comfortable appearance throughout. Space is well conserved. Ceiling heights throughout are uniformly 12 feet.

All lighting is indirect, utilizing both incandescent and fluorescent systems. There is a low-pressure steam heating system with cast-iron radiators of the hospital type. Two high-pressure boilers are provided for sterilization. Installations provide for both gas and oil fuel.

DETAIL OF ENTRANCE DOOR

U. S. NAVAL HOSPITAL

Long Beach

Left—Nurses' Building

Below—Corpsmen's Building

There are two electric elevators, serving all floors, in the administration building, both having cabs large enough for a stretcher.

Of unusual interest is the marquise at the main entrance. The canopy rests upon cylindrical blocks of stainless steel which is set free on massive piers of granite, making in effect a slip-joint to prevent damage by seismic movement. The canopy is constructed of structural steel and concrete with a skylight in the center. The entrance doors are stainless steel in modern design.

Claude Beelman of Los Angeles was the architect and R. E. Campbell of Los Angeles and Compton was the general contractor.

Reinforced concrete was the structural material employed, with a few minor exceptions. Approximately 50,000 cubic yards of concrete were placed in the buildings, ground enclosure walls, service roadway, and walks and curbs.

The first concrete was poured on December 6, 1941, and the superstructure of the hospital was completed within five months. The general contractor had the benefit of his own equipment for practically all of the work, including excavation. He set up his own steel-batching plant and steel cement silo on the grounds. Cement was delivered in bulk to the silo and concrete aggregates were supplied at the batching plant. For handling the batches, six trucks carrying three to five batches at a time were available.

Concrete for the buildings was mixed at the point of placement.

The maximum number of workers employed was 1,000. Recognition of the exceptional efforts of the general contractor, R. E. Campbell, to expedite the work, was given in the Navy Department competitive awards on comparable projects for outstanding performance in public works construction. Announcement was made by the Bureau of Yards and Docks, which gave first place to the Naval Hospital and Naval Reserve Aviation Base at Long Beach for the first quarter of 1942—January, February and March. Previous awards had been a third place for December, 1941; second place for January, 1942; and third place for February, 1942. Congratulations were extended by Secretary of the Treasury Morgenthau to the employees of R. E. Campbell for participation in the War Savings Bonds plan, averaging 11.8 per cent of the gross payroll of the organization.

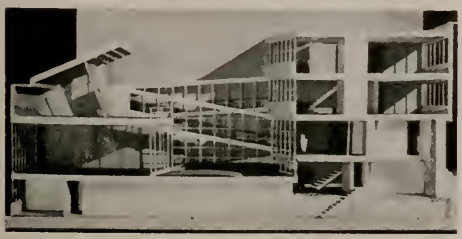
HOUSES FOR HUMAN BEINGS

Fortune Magazine for April presents an inesting and stimulating forecast of post-war housing. If we interpret the authors' meaning correctly, the functionalistic "styling" of the past few decades would be discarded for an "engineering" approach to the problems of home building. The vast technological progress in lighting, air-conditioning and sound-proofing; the rediscovery of old materials in addition to the newly found plastics, plywood and metals, would be combined with an analytical determination of the exact requirements of every foot of space of the modern home. The result: a maximum of healthful, economical efficiency.

The authors see the passing of the old-time architect with the coming of the architect-engineer.

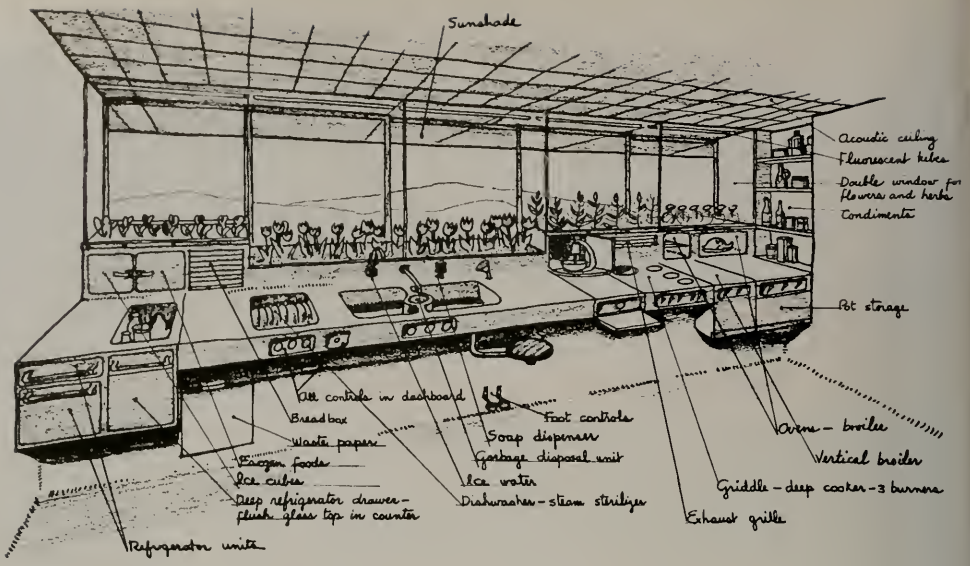
The same magnificent achievements that have characterized our war plant construction are expected to be accomplished in home post war housing. There will be little, if any, dust; no drafts, perfect air and sound conditioning, good lighting.

Fortune shows a picture (reproduced here) of Sherman Fairchild's New York City house—a masterpiece of individual design by Architects William Hamby and George Nelson. Light is achieved by splitting the house, which occupies a 25x100 ft. lot, in two parts and connecting them with long ramps alongside the court. The house is completely sound conditioned. Bath rooms and lavatories are built as units. Front walls are equipped with adjustable exterior blinds. The air-conditioning is supplemented by a dehumidifier and equipped with a Precipitron.



Revolutionary changes in the bath room and kitchen are outlined—such as: shower enclosed in transparent plastic, so as not to steam up the whole room; floor to be warm enough to walk on barefoot; the tub automatically preheated; a shower that will automatically deliver water of the right temperature; a tap that opens by knee or toe pressure against a convenient lever or pedal; electric heaters and sun lamp built into the walls or ceiling; washbasin large enough to bathe the baby and built flush with a counter containing drawers and storage space; properly drained soap dishes, so the soap will never turn to jelly; a mirror that may be pulled close to a man's face with enough light to shave with ease.

For the kitchen, the Fortune article suggests a "food preparation unit" (see illustration). "Nothing like this prefabricated unit exists," say the authors, "but it presents no great technical problems. It could be turned out for much less than the combined cost of its components. Small enough to fit in almost any house, it is



adequate for the needs of all save the most elaborate establishments."

Other home interior innovations mentioned is a sound conditioned telephone booth, now commonplace in industry, and built-in wall strips to hold lamps, desks, cabinets and bookshelves, leaving the floor clear.

Fortune acknowledges much of its source of information to Henry N. Wright and George Nelson, both members of the editorial staff of Architectural Forum.

PENTAGON COMPARED TO BARRACKS

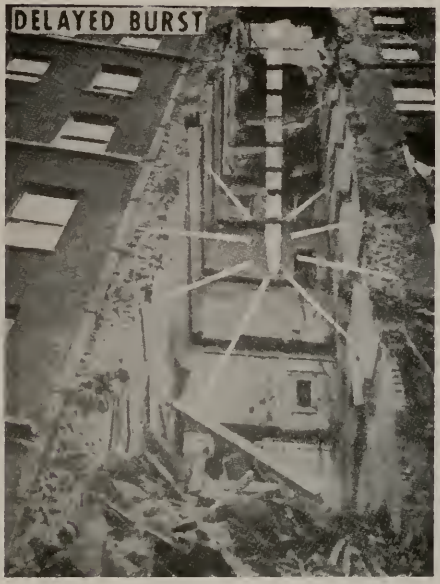
Much has been written about the more than $50,000,000 "mile around" Pentagon, War Department office building recently completed at Arlington, Va. It is a novelty in office buildings with ramps instead of stairs and escalators in place of elevators. Messengers ride the corridors on bicycles. It is a four-story building and looks like an endless barracks. In the ground story is the bus and taxi terminal. It houses 22,000 men and women. It is not likely to be a model for other office buildings and no one has claimed for it any advance in the cause of architecture. — Illinois Society of Architects' Monthly Bulletin.

BRITAIN'S BOMBED BUILDINGS

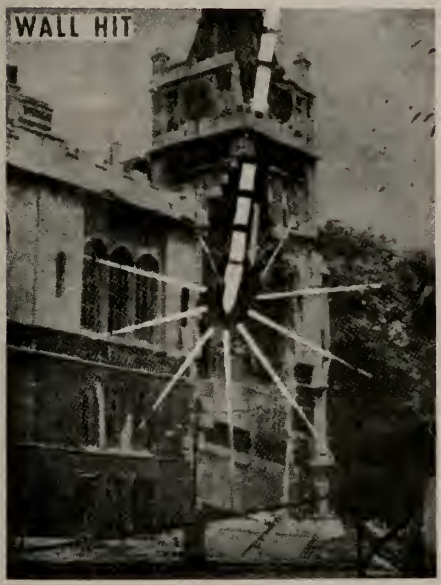
"The public mind, without necessarily deluding itself that air-raid destruction has of itself done much to bring improvement nearer, has universally identified the destruction of the congested centers of our cities with the possibilities of reconstruction. The destruction has been made to symbolize the spectacular end of an era that will not return. From this point of view the ruin, even when looked at as architecture in its own right, represents the apotheosis of the past—the intense experience of these active days crystallized into architectural shape. This is not the place to discuss the question of which damaged monuments should be restored and which demolished. Each case must be decided on its own merits, topographical, social and architectural. But when it is all over, a few of the bomb-wrecked buildings might well be left as permanent ruins—not, one hastens to add, as object-lessons for future war-mongers or for any other moral purpose—but for the sake of the intensely evocative atmosphere they possess in common with all ruins, which gives them an architectural vitality of their own; and frankly for their beauty. To posterity they will as effectively represent the dissolution of our prewar civilization as Fountains Abbey does the dissolution of the monasteries." — From "The Bombed Buildings of Britain" by J. M. Richards.

FOUR PICTURES SHOWING TYPICAL BOMB DAMAGE IN LONDON

With fuse set for contact, bomb exploded the instant it penetrated roof.



Full force of bomb was released, through delayed action, deep inside house.



Bomb, in curving flight, went through side wall and blew up an third floor.

Contact burst on street exerted no earth shock but fragments riddled walls.

SCULPTURE—THE MAN AND THE HORSE

By MICHAEL LANTZ

New Rochelle, N. Y.

Commissioned by the Public Buildings Administration, Section of Fine Arts, 1938.

The four photographs by Highton, official photographer for the Federal Works Agency, show close-ups of one of the two recently unveiled sculptures flanking the Entrance of the Federal Trade Commission Building, Constitution and Pennsylvania Avenues, Washington, D. C.

Rear View

Front View

SMASHING LIGHT BOTTLENECKS

By JEAN FRICKELTON

Smashing light bottlenecks to speed up war production is proving a "must" job before thousands of factories, shipyards and munition plants of the nation today.

With a constant demand for more speed in manufacturing and processing, scientific knowledge of light is helping both management and labor to squeeze the utmost efficiency from working hours—hours that mean lives to our fighting forces.

"Good lighting" is listed in the official Plan Book of the War Production Board as one of nine important suggestions for boosting production, for, in addition to increasing output and decreasing spoilage, good lighting is known to keep up the health and spirits of the workers.

Permitting night work is only one way in which good lighting increases production. Two or three shifts per 24 hours, instead of one, doubles or triples output. Good lighting also cuts the time required to lay out work, to assemble and adjust tools and dies, to make other necessary preparations. It enables men to work more rapidly and confidently, even on precision jobs measured in thousandths of an inch. It eliminates eyestrain and, therefore, increases the capacity of all employees, because eyestrain causes fatigue and slowdowns.

It reduces rejects, spoilage and waste, It reduces accidents.

Following are statements from men in charge of war production operations, in the Bay Region, attesting to the part good lighting plays in their work today:

PETER J. MacDONALD, chief foreman of the machine shop in a large shipbuilding plant—"We installed up-to-the-minute illumination about a year ago and the change was like coming out of a tunnel into bright sunshine. Now we have daylight all around the clock and we get a lot more done in our continuous race against time. We get better and more accurate work, too, and this is mighty important, for in some cases we work to half a thousandth of an inch. Yes, good lighting not only increases production but also safeguards against spoilage."

GEORGE WALLACE, one of the owners of a plant producing pipe bending machinery, fabricating piping and cast steel valves and fittings for the Army, Navy and Maritime Commission—"Good illumination has enabled us to work two shifts instead of one and what is more we can do more in each shift. Besides, the whole place is much safer and cleaner."

EDWARD MOES, shop foreman of this firm—"Our new lighting has made a world of difference. It has increased production between 20 and 25 per cent per shift and has improved the quality of everything we make. And it has greatly reduced eyestrain."

RAY ANSON, manager of a concern producing electrical equipment for the Army, Navy, Maritime Commission and other war industries—"In our plant good illumination has meant two shifts instead of one, because night work was impossible with our old lighting system. It has resulted in more accurate and generally better work. And it has duplicated in our drafting room the benefits it brought to the machine shop."

GUSTAVE WOLF, owner of a plant making screw machine products for the Army and Navy—"Thanks to good lighting, we now operate 24 hours a day; without it we would be limited to one shift. There is no shadow or glare and our men can see perfectly. As a result they work about twice as fast as formerly. Believe it or not, some of our employees are so enthusiastic about the illumination they would rather work at night than by day."

To help speed war production, the following "first aid" recommendations have been suggested by experts to eliminate lighting evils that are handicapping war workers:

Direct Glare . . . It is no new problem to have too much light in a worker's eyes, too little on his work. The first step to effect a cure is to shade lamps properly, put the light where it belongs and in so doing save as much as 60% of light that may otherwise be wasted.

Reflected Glare . . . This is a problem in two phases. It is often more objectionable than di-

rect glare, and frequently more harmful. A change from concentrated light sources to a large-area light source is the first and best cure. Adequate covering to assure diffusion, plus proper placing of offending supplementary units, can help.

Daylight Glare . . . Improper placement of drafting boards, desks, etc., can cause time loss resulting from glare from direct daylight. The cure is to shade the window or, wherever possible, shift working surfaces to put natural light on the working plane instead of in the worker's eyes.

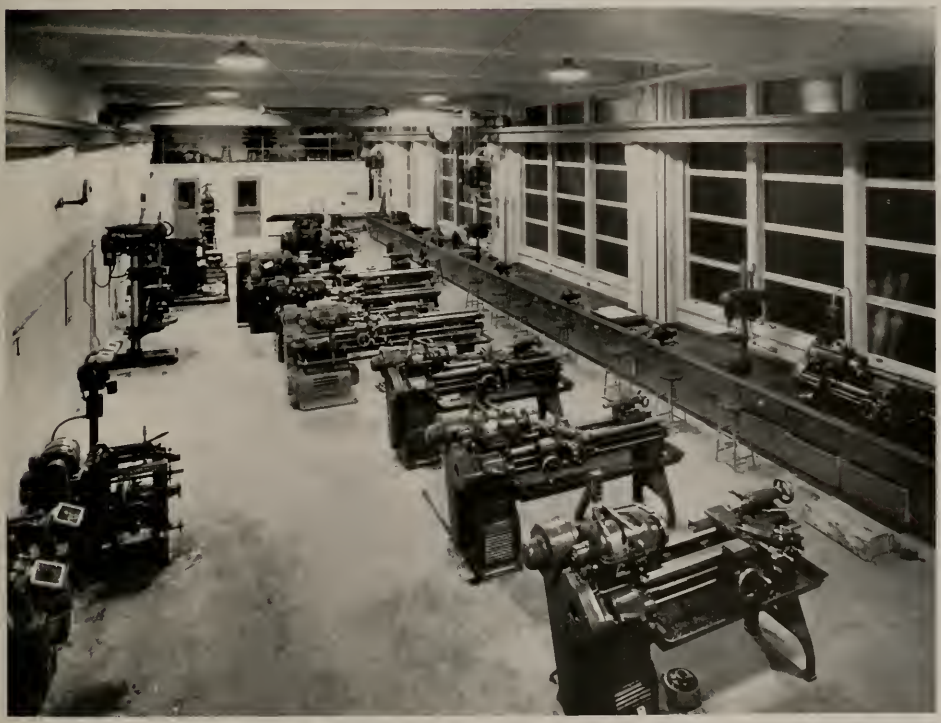
Dirt . . . This is commonest of all lighting bottlenecks and the easiest to cure. Dirty lamps and fixtures or windows frosted with grime can cut lighting levels as much as 50%. A regular soap and water schedule is essential, and for many installations equipment must be taken down for thorough washing.

Reflected Daylight Glare . . . This is natural light that bounces from work plane to eyes. Its only cure is shading the source or providing a high enough indoor intensity to offset as much reflected daylight as possible.

Point-light Source Reflections . . . Light reflected from curved work surfaces is concentrated by a point-light source. It can be minimized by shifting the lamp, shading, diffusing or changing to a long light source.

Shadows : : : Every worker knows the problem of "standing in his own light." Belts, beams, cranes, and tool racks all aggravate this trouble. The complete cure is adequate general lighting. The next best remedy is to increase the number of light sources.

Procedure Chart Lighting . . . Here eyes must change focus constantly, look through the pool of light over the machine at a less highly illuminated procedure, blueprint, or scale table. The cure is to equalize the illumination on machine and chart.



War plant where modern lighting has speeded production.

PEDESTRIAN TUNNEL FROM GARAGE TO HOTEL

When the Union Square Garage was featured in Architect and Engineer last October the tunnel under Powell Street from the garage to the St. Francis Hotel was incomplete so no suitable pictures were available. Recently with completion of the project Pacific Hotel & Restaurant Review (Irvin Keeler owner) showed several photos and a drawing of the tunnel which are reproduced here by courtesy of that publication.

In the tunnel there is a sense of security and convenience. There is no grade.

The garage is operated by a private concessionaire and the bonds making possible its construction were subscribed to by San Francisco and adjoining property owners and business houses. The Crocker Hotel Company owners and operators of the Hotel St. Francis, negotiated with the city and the garage company, resulting in the construction of a modern, well illuminated and safe tunnel connecting the garage and hotel.

On the first floor of the garage is the tunnel entrance to the St. Francis Hotel.

Architect's drawing of St. Francis Hotel-Union Square Garage Tunnel under Powell Street, San Francisco

Albert C. Martin, Sr. (right) and eldest son Abert C. Martin, Jr. (left).

MARTIN, SR., TAKES A PARTNER, MARTIN, JR.

A. C. Martin, one of Southern California's few remaining veteran architects, has taken his son, Albert C. Martin, Jr., into partnership and the firm will hereafter be known as Martin and Martin, architects and engineers. Young Martin received his degree at the University of Southern California following which he traveled abroad for more than six months, visiting by auto important centers in Italy and France, and making a special study of cathedral architecture.

Mr. Martin's younger son, Edward, is serving his country in the Navy construction forces and as a licensed engineer the young Seabee will probably in time become a third member of the Martin organization. Mr. Martin, Sr., designed the Higgins Building which was one of the largest reinforced concrete buildings to be erected in Los Angeles during the decade just before the first World War. Mr. Martin, Sr., was one of the architects associated with John Parkinson and J. C. Austin in planning the present Los Angeles City Hall.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

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PROTECT YOURSELF

Serious hardship has been experienced by several architects in recent years on account of peculiarities in the law which can only be changed by constitutional amendment. Specifically, architects have been retained by, and have prepared plans and specifications for school boards and other government agencies, all acting in good faith. Then, when time for payment has arrived there has been no legal means of making payment for the work completed.

The difficulty has arisen from the provisions of the state constitution requiring that obligations of a political subdivision which have been incurred in one budget or accounting period cannot be paid from tax monies received in a subsequent period. An exception is that money received on taxes delinquent in the period in which the contract was made may be used for the payment of obligations incurred during the period when the taxes were due.

The nature of a construction program is frequently such as to not allow the finishing of the work within the fiscal or tax year of the employing agency, and unless certain precautions are taken, difficulty is encountered when the auditor examines the status of the architect's statement for services.

The State Association has obtained legal advice on the problem, and has been advised that an amendment to the state constitution would be required to change the law. Amendments to the constitution may be initiated by action of the State legislature and confirmed by the vote of the people in a general election, or may be put upon the ballot in a general election by means of an initiative petition properly prepared, signed by the proper number of voters, and passed upon in a general election. Each of these methods is cumbersome and expensive in time and money.

The officers and executive committee of the State Association have therefore decided against the effort to amend the constitution at this time. Their legal advisor has informed them that a relatively simple method of protection is open to the architect entering into a contract with a state agency or subdivision. That method is to have a special fund set up by the employing agency to cover the items such as the architect's fees. The fund should be of sufficient size to cover the fees and expenses of the project. Money in such special funds may be carried over from one period to the next one, so that if this procedure is followed, there will be funds available upon which to draw when the payments are due.

The State Association does not presume to provide legal advice for its members. As problems arise, however, which are of general interest to the members, the officers and executive committee are on the alert to warn the members of potential dangers and to be of whatever assistance is possible in solving the problems of the architect's practice.

The Legislature

As noted in a previous issue of the Architect and Engineer, each session of the legislature brings forth proposals which, if enacted into law, would be of disastrous consequences to the protection which the law now provides for persons embarking upon a construction project.

The measures are proposed from various backgrounds. In this legislative session, for instance, some of the measures spring from those who would benefit from a relaxation of the standards which have been set up for the protection of the safety and investment value of new building projects. At least one measure which is being opposed by the State Association legislative committee was introduced with the best of intentions by its authors, but has implications which were not foreseen at the time of its drafting and which might have dangerous repercussions.

To examine the multitude of legislation proposed and to have representatives of the architect's viewpoint present at the hearings on the proposed bills requires a large expenditure of effort and money on the part of the architects. Fortunately, we have usually been able to have a few devoted members who were so impressed by the urgency of the cause that they have given of their time and effort.

To meet the financial necessity, an assessment has been levied upon the membership of the State Association. Indicating the awareness of the necessity, the responses to the notification of the assessment have been gratifying. The architects are putting aside their differences of opinion as to the personal charm of their elected representatives and are rallying to the defense of the profession. The architects must recognize and now do recognize that our professional safety, like our national safety, is directly proportional to the intensity of our will to sacrifice for the common good.

A CORRECTION

Architect and Engineer is glad to give publicity to some objections raised by William W. Wurster to Sally Carrighar's article on Stern Hall, the new girls' dormitory at Berkeley.

The engineering department of the University furnished information that about four and a half acres had been allotted to Stern Hall. Considering the number of girls accommodated, we expressed the opinion that the ground use had not been economical. It seems, however, that the acreage given will be reduced later: other plans have been made for part of it. The University technicians did not explain that fact at first, but it white-washes the architects.

Another misunderstanding: the non-parallel bedroom wings do not spread in order to conform to the site, but for other reasons—to enable the occupants of inside rooms to have a wider outlook, and to prevent direct views into opposite rooms.

There is some time to be an informal lounge; the space is there, on the dining room floor, but at present there is no money for furniture. And books **are** being bought for the empty library shelves.

AH—THE CAMOUFLEUR!

When the amateur camoufleur first tries to practice deceit or protective concealment or obscuration, he finds out that:

1. The Office of Civilian Defense does "not encourage camouflage," only the preparation of plans in case they may be needed.

2. The U. S. Engineer Board says, "No camouflage is better than poor camouflage."

3. The Chief of Engineering says, "No protective concealment, not even tone-down of oil tanks, is permitted without his official O.K."

4. The Army says no camouflage to be done near "military installations" without its permission.

5. The War Production Board is critical of "critical materials" and wants schemes for camouflage first submitted to the Resources Protection Board.

And so on and so on!—Lawrence Corwin.

1943 A. I. A. HANDBOOK

The revised 1943 edition of the A. I. A. Handbook of Architectural Practice is ready for distribution. The book has 204 pages of text, bound in size 8½ x 11 durable, blue linen cloth cover, with title in gold letters. The price is $5.00 per copy except to architectural students who may purchase copies for $4.00, provided orders from students are countersigned by the Deans of their Departments of Architecture.

FREE INDIA NOW?

The March meeting of Engineers and Architects Association of Los Angeles was featured by two most interesting talks on "Free India Now?" by Miles Mander of London, radio commentator, lecturer and soldier, and Lal Chand Mehra, Indian born and American educated at the University of California. Music for the evening was in charge of Miss Gertrude Kreig.

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PRODUCERS' COUNCIL PAGE

Northern California Chapter

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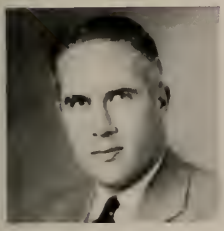

C. A. COOK
Plugs for Sisalkraft

C. A. "Chet" Cook claims Elgin, Illinois, as his home town, where he grew up. University of Illinois was "Chet's" school. He left U. I. during darkest depression days, to "accept positions" (at that time vulgarly called "landing a job") of various sorts, paying all the way from $1 per diem to $6 per week, plus eats. In 1933 Lady Luck discovered "Chet", and he has been with the Sisalkraft Company ever since. "Chet" putters around his Piedmont home whenever he gets the welcome chance. Married, and has two children: a daughter, 3 years old, plus a proud new addition, Donald Reed.

Circle May 13 with red pencil on your calendar . . . that's the scheduled date for our joint meeting with Military Engineers. This night meeting at the Engineer's Club will replace our regular noon session for May. Contribution of our Chapter to the program will be a showing of the unusual movie "Industry Goes To War", produced by Pacific Gas & Electric Company. This is **your** meeting—be there. Guests are welcome and are assured an interesting evening. Just another step in the Council's announced program to spread its influence into different phases of the building market. Vice-President Horace Pickett is in charge of arrangements.

Ed Stein, recently installed Secretary of the local chapter, has been forced to drop out. Ed has been transferred back to Pittsburgh, where he'll take up new duties with his company, Pittsburgh Plate Glass. We wish Ed the best of luck in his new job.

Work done by your executive committee in the past month included naming Harry J. Lemos, P. G. & E. Treasurer in place of Ed Stein. The following committees, set up by President "Chuck" Kraft, met official approval:

Membership: Chairman, Ed Banta, H. H. Robertson Company; Louie Saylor, Vermont Marble Company; Hal Heakin, Pacific Foundry Company.

Program: Chairman, Bob Telfer, Western Asbestos Company; Allen Turner, Masonite Corporation; Frank Baker, W. P. Fuller & Company.

Fellowship: Chairman, Charles Nicholas, Crane Company; Jim Turner, Westinghouse Electric & Mfg. Company; Ed Cathcart, Johns-Manville Sales Corporation.

Post-War Planning: Chairman, Ken Pinney, Armstrong Cork Company, liaison with Marketing Committee; Ray Brown, Gladding McBean & Company, liaison with Technical Committee; Vice Anderson, Otis Elevator Company, liaison with Committee on Finance; Gano Baker, Westinghouse Electric Elevator Company, liaison with Committees on Industrial and Consumer Relations & Government Relations.

This follows the organization of the Post-War Planning Committee of the National Council. As indicated above, Committee members will act as liaison with specified sub-committees of the National Post-War Planning Committee. Members are asked to submit suggestions or findings on each of these major questions to the committeeman charged with that responsibility. Your local committee will discuss these ideas, then the chairman or member to whose assignment the discussion pertains, will communicate them to the National Committee.

Similarly in the case of sifting out local questions, the same manner of gathering facts and ideas is followed. The committee digests material brought to it by our members, and makes recommendations to the Chapter as a whole.

Building Industry Conference Board representative is immediate Past President Gano Baker, with Ray Brown as alternate.

Gano announces that all members are cordially invited to attend Board meetings. Meeting place is the Commercial Club, second Wednesday of the month, at noon. Ask Gano to add your name to the mailing list for notices of these meetings. President this year is Clyde E. Bentley, consulting mechanical and electrical engineer.

Al Evers, Executive Director of the local Housing Authority, discussed SB-37 with your Executive Committee. Favorable action was the result, and Secretary Chet Cook was requested to write urging a "do pass" recommendation on the Government Economy and Ef-

(Turn to Page 45)

USE QUALITY PRODUCTS • CONSULT AN ARCHITECT

THE ARCHITECT—
STILL ADVANCING ON THE WAR FRONTS

SLIGHT DROP IN PUBLIC HOUSING

A summary of the month's building activity in the San Francisco Bay region shows a considerable falling off of new public housing except conversions of old structures, stores and garages into apartments for war workers. Some 15 San Francisco and Oakland architects received commissions the past month to "dress up" and convert various pieces of property into living quarters and still more projects of this type are in the offing. There are several large private housing projects and industrial building has taken a new lease on life but with too few architects employed to prepare the plans. Contractors and structural engineers appear to have the cream of the work.

Both the Army and Navy continue to show interest in increased hospital facilities and another large Bay region hotel may be added to the Army's list of sanitariums, according to current rumor.

A 1500 bed hospital on the Grass Valley highway in Placer County is contemplated; drawings are in progress for another 1500 bed army hospital to be built on the Hopkins Estate at Menlo Park. The K. E. Parker Company has been awarded contracts for new units, also aviation facilities at the Navy's Oak Knoll Hospital in Alameda County, and the McNeil Construction Company of Los Angeles, has the contract to construct a battalion replacement center near Pleasanton, from plans by W. D. Peugh, architect, San Francisco. Cost of the Pleasanton project is estimated at $4,450,000.

STEP-UP IN INDUSTRIAL WORK

Largest industrial project reported during the month was a contract to the Austin Company, Ray Building, Oakland, to rebuild that portion of the Albers Milling Company plant in Oakland, recently damaged by fire. Cost of a new warehouse and mill building is estimated at $1,200,000.

At Salinas Ellis H. Spiegl will build a vegetable dehydrating plant, valued at $500,000 and a similar plant, but smaller, is announced for Bakersfield, the latter to be built by the Austin Company of Los Angeles, for the Kern County Dehydrating Company.

Other industrial projects include a one story brick and frame factory at San Leandro for the Nelson Specialty Welding Equipment Company, from plans by Miller and Warnecke, Oakland architects; a frame box factory at Barstow and 16th Streets, San Francisco, for the California Wooden Box Company, Martin J. Rist, Phelan Building, architect; and a one story brick factory on 61st Street, Oakland, for Ralph N. Brodie Company, plans by John B. Anthony, architect.

FIFTEEN ARCHITECTS RECEIVE "CONVERSION" JOBS

New "conversion" jobs include five apartments for war workers on Oxford Street, Berkeley; a residence remodeling in Oakland for war housing and another on College Avenue, Berkeley; apartment remodeling at 2817 Telegraph Avenue, Oakland; apartment remodeling at 1730 Pacific Avenue, San Francisco; one at 4136 - 17th Street, San Francisco; one at 424 Crafton Avenue, San Francisco, and 15 apartments at 6000 Fulton Street, San Francisco. All of these projects have been or are being worked up in the office of Frederick H. Reimers, 233 Post Street, San Francisco, with the Home Owners' Loan Corporation given as the sponsors.

Other architects engaged on conversion work are John S. Gould, F. H. Meyer, Ralph E. Norris (Designer), Harry A. Thomsen, H. T. Johnson, Maalcom D. Reynolds, Robert A. Hutchison, William Mooser, Vincent Buckley, Thomas M. Edwards, L. L. Nusbaum, A. L. Koue, Joseph McCarthy.

CIVILIAN DEFENSE BUILDINGS

Civilian defense building in San Francisco has stepped up considerably with plans completed by City Architect Dodge Reidy for three war council units, ten auxiliary fire houses and two crew gas cleansing stations.

Another war housing project at Vallejo, not heretofore announced, is 1000 houses and 500 dormitory units being planned by David H. Horn, architect, 564 Market Street, San Francisco.

Quite a number of new jobs designated as "housing facilities" are coming out of the office of the U. S. Engineers, 74 New Montgomery Street, San Francisco. In all instances the projects are planned by the government's own engineering staff with standardized spicifications.

The Santa Fe and the Telephone Company have each announced that they will build dormitories for their employees at Richmond.

SPECIAL NOTE—Important Corrections in this issue.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.
Government work ¾%.

Brickwork—

Common, $43 to $45 per 1000 laid, (according to class of work).

Face, $125 to $150 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.50 lin. ft.

Brick Veneer on frame buildings, $1.10 sq. ft.

Common f.o.b. cars, $16.00 a yard. Cartage extra. $2.50 per 1000.

Face, f.o.b. cars, $55.00 to $80.00 per 1000, carload lots.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.95 per ton at bunker; delivered, $2.50. All quotations less 10% to contractors.

	Bunker	Delivered
Top sand	$1.90	$2.50
Concrete mix	1.90	2.45
Crushed rock, ¼ to ¾	1.90	2.50
Crushed rock, ¾ to 1½	1.90	2.50
Roofing gravel	2.25	2.80
River sand	2.25	2.70

SAND—	Bunker	Delivered
River sand	$2.25	$2.70
Lapis (Nos. 2 & 4)	2.85	3.15
Olympia Nos. 1 & 2	2.85	3.10
Del Monte white		84c per sack

Common cement (all brands, paper sacks) carload lots $2.42 per bbl. f.o.b. car; delivered $2.60.

Cash discount on carload lots, 10c a barrel, 10th Prox.

Atlas White, Calaveras White, Medusa White } 1 to 100 sacks, $2.70 sack, warehouse or delivery; $7.65 bbl. carload lots.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet. (Available only for priority work.)

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $6500.00.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	⅜x2¼" T&G	⅜x2" T&G	⅜x2" Sq. Ed.
Clr. Otd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), glazed, 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.9C per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$45.00 per M
No. 2 common	43.00 per M
Select O. P. Common	48.00 per M
1x4 No. 2 flooring VG	80.00 per M
1x4 No. 3 flooring VG	75.00 per M
1x6 No. 2 flooring VG	90.00 per M
1¼x4 No. 2 flooring	85.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	50.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.40 per bdle.

Plywood—Douglas Fir (add cartage)—
"Plyscord" sheathing (unsanded)
⅜" 3-ply and 48"x96" ..... $39.75 per M
"Piywall" (wallboard grade)—
¼" 3-ply 48"x96" ..... $43.70 per M
"Plyform" (concrete form grade)—
⅝" 5-ply 48"x96" ..... $117.30 per M
Exterior Plywood Siding—
¼" 5-ply Fir ..... $132.00 per M
Redwood (Rustic) 1"x8" clear heart.. $ 95.00 per M
$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $100.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot. Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine $1.08 per gal., in 5 gal. cans, and 95c per gal. in drums.
Raw Linseed Oil—$1.32 gal. in light drums.
Boiled Linseed Oil—$1.35 gal. in drums and $1.48 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12½c
500 lbs. and less than 1 ton	13¼c
Less than 500 lb. lots	13¾c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Naat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.70
2 coats, lime mortar hard finish, wood lath	.90
2 coats, hard wall plaster, wood lath	.80
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.60
Ceilings with ¾ hot roll channeis metal lath (lathed only)	1.10
Ceilings with ¾ hot roll channeis metal lath plastered	2.00
Single partition ¾ channel lath 1 side (lath only	1.10
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	2.00
4-inch double partition ¾ channel lath 2 sides plastered	3.50
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	3.00
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	4.00
3 coats over 1" Thermax nailed to one side wood studs or joists	1.50
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.75

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000 (not available)	
2.5-lb. metal lath (dipped) (not available)	.19
2.5-lb. metal lath (galvanized) (not avail.)	.21
3.4-lb. metal lath (dipped) (not available)	.22
3.4-lb. metal lath (galvanized) (not avail.)	.24

¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Deuler's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $25.00 ton.

Plasterers Wage Scale	$1.75 per hour
Lathers Wage Scale	1.75 per hour
Hod Carriers Wage Scale	1.50 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure ..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.50
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware, $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00. Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)
Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft.
4 x 6 x 12	1.15 sq. ft.
2 x 8 x 16	1.10 sq. ft.
4 x 8 x 16	1.30 sq. ft.

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1943 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

All crafts, except plasterers, are now working 8 hours a day. Plasterers' time is 6 hours.

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37¼	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	1.87½	1.87½	1.50	1.87½	2.00	2.00	1.87½	1.87½	2.00
BRICKLAYERS' HODCARRIERS	1.40	1.40	1.05	1.40	1.40	1.40	1.40	1.40	1.40
CARPENTERS	1.43	1.43	1.25	1.43	1.43	1.43	1.43	1.43	1.43
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	.81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	1.75	1.75	1.50	1.75	1.60	1.75	1.75	1.50	1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	1.37½	1.50	1.28-4/7	1.37½	1.25	1.35-5/7	1.42-6/7	1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	1.66-2/3	1.66-2/3	1.75	1.66-2/3	1.75	2.00	2.00	1.75	1.83-1/3
PLASTERERS' HODCARRIERS	1.50	1.45	1.40	1.40	1.18¾	1.35	1.75	1.40	1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53⅛	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	1.50	1.75	1.50	1.75	1.75	1.50	1.75	1.75	1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

STEEL REPORT—Just released by Irving S. Olds, Chairman of the Board of Directors of United States Steel Corporation, is their Forty-first Annual Report. This 34 page booklet reviews the wartime contributions of the corporation and its subsidiaries. A factual and pictorial review of operations covering the first war year reveals many interesting innovations and new production records. A copy may be had by writing United States Steel Corp., 71 Broadway, New York, N. Y.

PIANO-TYPE HINGES — A new achievement in the plastics industry are hinges of Tenite, extruded in continuous lengths. They offer advantages for new design possibilities to the makers of lightweight portable equipment. These hinges may be cut to any length desired and the makers claim long wear without chipping or cracking. For further information, write Plastic Process Co., 828 North Highland Ave., Hollywood, Calif.

CARE OF BRUSHES—New instructions in the care of paint varnish and lacquer brushes, now being manufactured from war-created substitutes, have been released by The Osborn Mfg. Co., 5401 Hamilton Ave., Cleveland, Ohio. In a booklet entitled "Care and Conservation of Brushes", this manufacturer of industrial brushes, tells why brush conservation is necessary, selecting the right brush for the right job and the proper way to break in a new brush.

PLYWOOD GARBAGE RECEPTACLE — In the interest of steel conservation, Aberdeen Wood Products Co., Inc., Aberdeen, Washington, have developed a garbage receptacle made of plywood. After months of experimental work, the manufacturer has produced what they believe to be a good and timely product. Descriptive leaflet may be had upon request.

"V" MODEL FLUSH VALVE — To meet the needs for essential wartime construction which will conserve critical war materials and at the same time provide dependable, enduring service, a "V" model Watrous flush valve is being offered by the Imperial Brass Mfg. Co., 1200 Harrison Street, Chicago. This valve conforms to material conservation requirements of War Department Specification PE-623.

LAMINATED ARCHES—A 12 page catalog illustrating the successful use of glued laminated construction over an eight year period, in buildings of over 5,000,000 square feet, has just been published by Unit Structures, Inc., Peshtigo, Wisconsin. This type of construction which has come into prominence during wartime scarcity of steel is illustrated with photographs, drawings and suggestions for practical application. Almost every type and shape of arch and beam, and practically every basic type of construction is shown.

ROOF VENTILATORS — A new line of roof ventilators made of non-critical materials, and named the "NCM" is being introduced by the Swartwout Company. Metal used in these ventilators, for bracing and assembling, amounts to less than 5%. Wherever metal is not vitally necessary "NCM" may be used. Several of the new designs parallel closely the original styles made of steel, and are found to be equally effective in performance. A descriptive catalog (Bulletin 217) can be obtained by addressing the manufacturer at 18511 Euclid Ave., Cleveland, Ohio.

WELDED FABRICATION — The War Production Board's order L-41 requires a certificate to the effect that "the building has been designed to secure the greatest saving of steel through continuity in design and welded fabrication." The Saxe Welded Erection System is described in Bulletin No. 3 for architects, engineers and those interested in the erection of steel buildings. It is claimed the savings obtainable in this type of construction will play an important role in post-war planning. Write J. H. Williams & Co., 400 Vulcan Street, Buffalo, N. Y.

NON-METALLIC PIPE — The resourcefulness of American industry in developing new applications of non-critical materials is illustrated by the announcement of a new line of non-metallic drain and sewer pipe by the Fibre Conduit Company of Orangeburg, N. Y. According to H. J. Robertson, president, the pipe is resistant to moisture, tuberculation, corrosion and most dilut inorganic acids and alkalies. There are two types of this pipe, which is made of cellulose fibre impregnated with coal tar pitch — perforated and non-perforated. Booklet illustrating uses will be sent upon request.

GLASS STALL SHOWER—Recently introduced is a prefabricated glass stall shower, packed as a unit in one box containing all materials and screws necessary for installation. Also included are a recessed china soap and grab, and a natural-finish wood shower curtain rod. The glass is fabricated with holes for plumbing outlets, drilled to specifications submitted with order. A maximum of five or minimum of three pieces of glass form the complete unit. Pittsburgh Plate Glass Co., 2029 Grant Bldg., Pittsburgh, Pa.

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STRUCTURAL ENGINEERS IN WAR WORK

Recently the Structural Engineers Association of Northern California held its regular bi-monthly meeting at the Engineers' Club in San Francisco. The principal speakers were H. J. Brunnier and A. V. Saph, consulting structural engineers, and Professor Clement T. Wiskocil, Instructor of Civil Engineering at the University of California. All three speakers being past presidents of the Association, their subjects covered a complete synopsis of past accomplishments and future opportunities.

Founded in 1930, the Association was created to establish mutual confidence and high standards among structural engineers. The Association was active in the defeat of legislation detrimental to the engineering profession and instrumental in the making of building codes and legislation of great benefit to the public. Members spent much time in the preparation of "Appendix A" (Rules and Regulations for the Construction of Public School Buildings) which has been in use since the Long Beach earthquake of 1933 and is today enforced through the State Field Act.

The application of "Appendix A" has proven the underlying principle to be sound, the principle being that work is performed by engineers, architects and contractors in private business, with the State of California exercising authority to check and approve the work. Thus progress through private initiative is assured and at the same time adequate provisions for safety against earthquakes and windstorms are maintained in school building construction.

In a similar fashion provisions of the State Riley Act were sponsored by the engineering profession to furnish the public with minimum protection against earthquake damage in private construction.

In 1934 the licensing of the civil and structural engineering professions was actively supported and sponsored by the Structural Engineers Association as an aid to public welfare and safety.

Only the larger cities maintain a Bureau of Building Inspection where competent engineers check and pass on plans for safety of construction. The Structural Engineers Association is always ready to assist building inspectors from outlying communities, checking plans and specifications and recommending necessary improvements in designs and materials.

The present great national crisis and war effort found the profession ready to do its share in the planning of many projects, whether they be ships, plants, harbors or airports.

To preserve materials without sacrificing safety is always a function of the engineer, but today this is more important than ever. Even with private construction reduced to a minimum, many basic materials such as steel and wood are not produced in sufficient quantities, and as a result the engineer has been called upon to use less of these materials, through refined designs and by using higher working stresses, or by substituting

new materials for those heretofore used as a matter of standard practice.

The Association takes pride in the creditable record made by its members in designing and supervising the construction of many war projects where substantial savings have been effected. Because of this outstanding contribution to the war effort, the Association feels justified in bringing to public attention the necessity of having engineers in private practice work with the Army and Navy on defense projects.

The war effort has been served by the Structural Engineers Association in other ways. Many of the members have, as a public service and without remuneration, assisted in the classifying of buildings for air-raid shelters. The Association, recognizing the acute shortage of structural engineers, has also been instrumental in basic war training courses being conducted at Stanford University as well as at the University of California.

NEW LIGHTING ERA TO FOLLOW THE WAR

Artificial light has passed the stage of purely utilitarian use and is entering an era in which it will appeal to man's senses, create or change his moods, give him greater leisure and a longer, healthier life, according to Samuel G. Hibben, noted lighting authority, speaking before the Producers' Council in Washington, D. C. Mr. Hibben, director of applied lighting at the Westinghouse Lamp Division, declared that new lighting techniques would affect every important field of illumination, including homes, factories and public buildings. American homes in the post-war period will benefit greatly by the advances in lighting techniques of the past few years.

Beautiful displays of artificial light and actual scenes in all their natural beauty will be brought into homes of tomorrow by means of television. It requires no great flight of the imagination to picture television screens the size of an entire wall, bringing not merely the image and voice of the singer or the view of a boxing bout, but also such scenes of vivid beauty as a sunset, a view of one of our national parks or perhaps the sound and sight of heavy surf breaking on a distant shore.

Ultraviolet lamps already in practical use will guard us against disease by killing the bacteria in the air and others will provide us with suntan and health-giving radiation while we sleep.

BRINCKMAN ON THE UP

Friends of A. L. Brinckman, formerly Berkeley building inspector, will be interested to learn of his latest promotion. Brinckman was in Honolulu at the time of the Pearl Harbor outrage. Since identified with government work, he is now Service Superintendent of Construction, Area No. 2, Hickam Field. Brinckman was recently granted leave of absence for the duration by the Structural Engineers Association of Northern California, of which he is a member.

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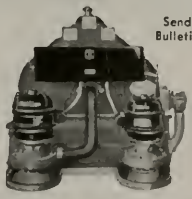

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The March meeting of Southern California Chapter, A.I.A., nominated the following delegates to the A.I.A. National Convention scheduled to be held in Cincinnati, Ohio, May 26-28:

Walter Reichardt, Whitney Smith, Sumner Spaulding, Graham Latta, Chas. O. Matcham, Adrian Wilson, Wm. H. Harrison, Floyd Rible, Samuel E. Lunden and George Adams.

Two outstanding features heightened interest in the evening's program, presentation to Ralph C. Flewelling of a Certificate of Fellowship in the American Institute of Architects, and a discussion of some of the entries in the recent store front competition.

Presentation of Mr. Flewelling's certificate was made by Sumner Spaulding. Briefly reviewing some of the work leading to the award, Mr. Spaulding said that Mr. Flewelling was "one of the few who thought first and built afterward."

Mr. Flewelling has been a member of the American Institute of Architects and Southern California Chapter since 1925 and served two years as president of the Chapter. Native of Cambridge, Mass., he attended Wesleyan University at Middletown, Conn., and was graduated from Boston Institute of Technology. He has practiced architecture in Los Angeles since 1925.

The Chapter's Long Range Planning Committee reported through Chairman H. J. Powell, who imparted the information that various other organizations, including the American Legion and Town Hall, have followed the Chapter's lead and now are making post-war plans.

COMPETITIONS

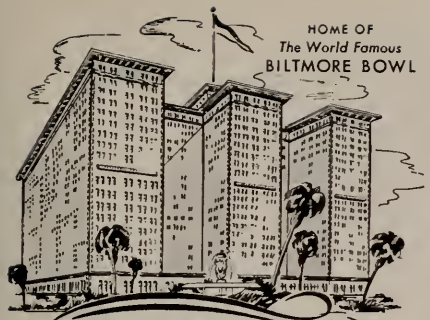
ARC WELDED COMPOSITIONS

The James F. Lincoln Arc Welding Foundation, Cleveland, Ohio, has announced a new project—the first $6,750 Annual Engineering Undergraduate Award and Scholarship Program. Its object is to encourage engineering students to study arc welded construction so that their imagination, ability and vision may be given opportunity to extend knowledge of this method and thus aid the war effort and the economic reconstruction in the peace which is to follow.

Any resident engineering undergraduate student registered in any school, college or university in the United States, or any cadet registered in a Military Academy, Naval Academy or Coast Guard Academy is eligible to compete.

SOAP SCULPTURE CONTEST

The Nineteenth Annual Ivory Soap Sculpture Competition, with prizes totaling $1,120 in cash, is announced by the National Soap Sculpture Committee, 80 E. 11th Street, New York. The competition closes May 15. Awards will be made in three classes—advanced amateur, senior, junior, with special group and reproduction prizes. A 24-page illustrated booklet, announcing the competition and showing some of the previous prize winning sculptures, may be had from the committee.



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PRODUCERS' COUNCIL

(Continued from Page 37)

ficiency Committee of the State Senate. Copies of this correspondence have been sent to each member and alternate, together with a letter of explanation, and request for similar action from you as individuals. As always, the Northern California Chapter takes an active interest in matters affecting the general good of the industry in all its phases. Support this policy.

Ken Pinney, Past President and active Chapter member, at time of this writing, is on a trip East. Ken expects to use this opportunity to dig into the post-war planning story. We're particularly fortunate in having opportunities to check personally with Council headquarters, since under present conditions close and personal contact is of high importance.

E. J. Gossett, a director of the Producer's Council, and President of Bell and Gossett Company of Chicago, was a recent San Francisco visitor. While here, Mr. Gossett met with the Executive Committee at the March 31st luncheon at the Engineers' Club, for a general discussion and exchange of ideas on Chapter affairs.

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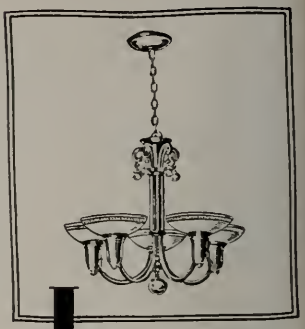

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PREFABRICATED HOUSES TO STAY

The day of prefabricated demountable houses has arrived, thanks to the purchases by the U. S. Navy and Army. Without the orders of the armed forces of this country in wartime, prefabrication of complete houses would probably have languished. But orders for 75,000 completely equipped prefabricated dwellings for war workers has advanced an industry from the experimental to the stage of mass production.

It is argued that the individually built small house costs approximately $5,000 while a mass production house of similar accommodations can be produced for very much less, making it possible for a family with a $2,500 per year income to own its own home. But this argument had little bearing with the Army and Navy in their purchase of ready made houses. The armed forces sought to avoid creating ghost towns after the war through building permanent homes in localities that, in time of peace, would offer the dwellers no means of livelihood.

So these houses are made collapsible wall by wall, releasing individual floor and roof, loaded onto a truck and moved anywhere dwellers may be found. This thought suggests a nation of nomad workers who, like the Arab, folds his tent and silently steals away, or the gypsy who moves more noisily from town to town.

Prefabrication of building parts is a very old story. Timber joists were cut with a disc saw run by steam power and perhaps even by water power before steam power was introduced. Studding, tongue and groove boards, shingles, complete window frames and sashes, door frames, doors and moldings made in factories, all came before the birth of any living architect today. Hardware was prefabricated. Plumbing goods, valves, etc., and endless other parts of buildings prefabricated were introduced and are introduced constantly by every architect designing houses. So the thought of prefabrication is not a new one. It was accelerated by the automobile and those who constantly pointed to the automobile as a model for house building can say, "I told you so."

The fact remains that everyone financially able to live in a well-founded, well-designed home, willing to tie himself to a fixed locality for a period of years, will always prefer this type of dwelling to one made for a nomadic population. The John B. Pierce Foundation is preparing to publish, in six chapters, the story of the prefabricated house.—Bulletin Illinois Society of Architects.

BAY AREA BUILDING PROGRAM

A program of continuing construction of new war housing is in prospect for the greater San Francisco Bay Area during the remainder of 1943 and spring of 1944, Eugene Weston, Jr., regional representative of the National Housing Agency, said on his return from a conference in Washington, D. C.

Weston revealed that war housing programs prepared, approved or in preparation in the tenth region (California, Nevada, Arizona) during the present fiscal year ending June 30 will total over 134,000 units. In the greater San Francisco Bay Area, the figure will total over 58,500 units.

Included in these quotas is construction to be financed by private funds, permitting private owners to convert their structures into family accommodations. Present indications of the home owners' acceptance of the public conversion program financed through public funds leads Weston to believe that all quotas will be met.

Critical housing conditions are in prospect immediately for Alameda, and, according to Weston, that community will become one of the most crowded in the region.

He pointed out that all of East Bay, including Oakland, will have broadly expanded housing programs. On his trip East he was successful in obtaining approval of one of the largest dormitory projects (4,000 units) in the nation for construction in Richmond.

"San Francisco, too," he asserted, "is showing results of increased need for housing as evidenced by recent approval of over 4,500 dwelling and dormitory units for the naval establishment at Hunters Point and the previously announced 1,000 unit quota for private dwelling construction.

Commenting on future policies to control construction and occupancy of war housing, Weston declared that future planning calls for the following:

1. Rigid certification of in-migrant war workers to war housing in those industries for which the WMC has indicated that local labor is available.

2. Eliminination of worker eligibility for war housing in those industries for which the WMC has indicated that local labor is available.

3. Possibility of extending certification of housing to war workers and families now living under intolerable conditions.

4. Inclusion of dehydrating plants in the list of essential war industries. This will mean that in-migrant workers of dehydrating plants may be included as eligible for war housing programed within the area. Many

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such plants (one-third of total in nation) are located in California.

Approval has been granted for the privately-financed conversion of 175 family units in existing structures in the Bay Area, it was revealed by Weston. Location and number of these units follow:

South San Francisco, 25; Richmond, 50; Santa Rosa, 25; Vallejo, 50; and Napa, 25.

San Francisco architects, in considerable numbers, are preparing the plans for these conversion projects.

SAVE-THE-REDWOODS

Urging preservation of the finest Redwood forests in California not yet in public keeping, the Save-the-Redwoods League is emphasizing the importance of rescuing the famous Avenue of the Giants before it is too late. Directly in the path of lumbering operations, the Avenue of the Giants forest along the Redwood Highway in the Eel River region, Humboldt County, is referred to as one of the world's magnificent primeval forests, in the annual report of the League, issued recently.

The State of California, through appropriations made by the Legislature, is co-operating in the preservation program. The Save-the-Redwoods League is making a nationwide appeal to raise the urgently needed funds to aid in the move to acquire the parts of the great forest not yet protected within the State Park System.

Contributions for preservation of the Avenue of the Giants forest are made through the Save-the-Redwoods League, whose treasurer is Dr. Robert G. Sproul, 250 Administration Building, University of California, Berkeley.

TRENDS IN HOME BUILDING

Dr. Morris Fishbein, head of the National Medical Association, points to the fact that the modern trend in house building is to eliminate the parlor or best room and provide an extra bedroom with plenty of light, heat, space and ventilation.

In Portland, Oregon, the new defense homes project at Vanport City has been dubbed a mistake by C. M. Gartrell, chairman of the Portland Housing Authority. He points out that a national agency's program or theory "often fails to fit a local pattern" and cites the Vanport City as a conspicuous example. This project will ultimately provide housing for 40,000 persons conected with the Kaiser shipyards. Management problems after the war are going to be something to worry about.

* * *

San Francisco's housing congestion is being relieved somewhat by the conversion of old and in some instances unused flats into livable, sanitary apartments for war workers. Many of the local architects have found needed employment in redesigning some of these eyesores. More than 1,000 applications of property owners anxious to have their holdings "converted" have been received and fully 200 units have already been approved. The work is being done under the name of the Home Owners Loan Corporation.

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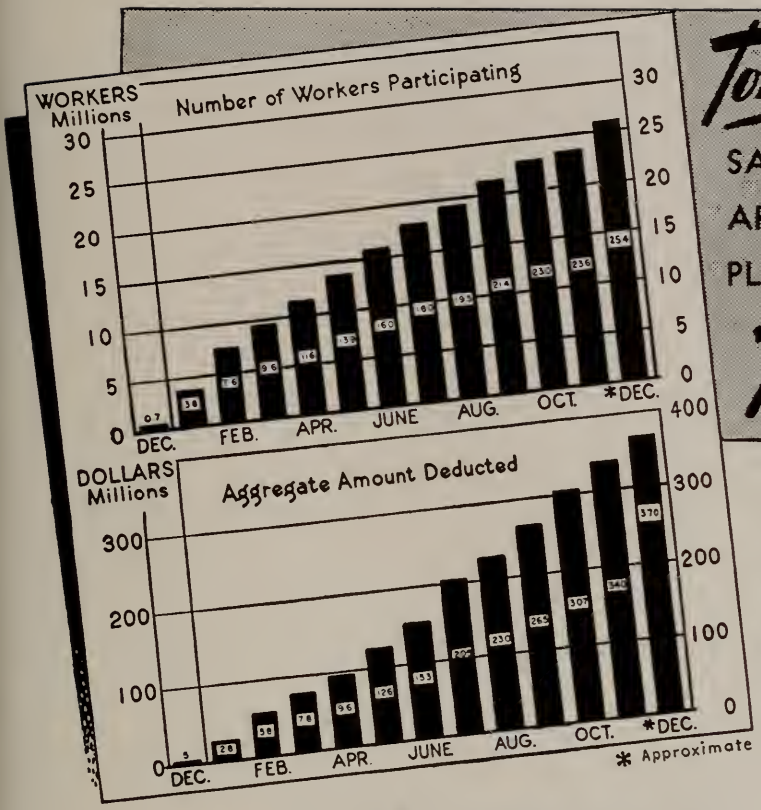

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But there is still more to be done. As our armed forces continue to press the attack in all quarters of the globe, as war costs mount, so must the record of our savings keep pace.

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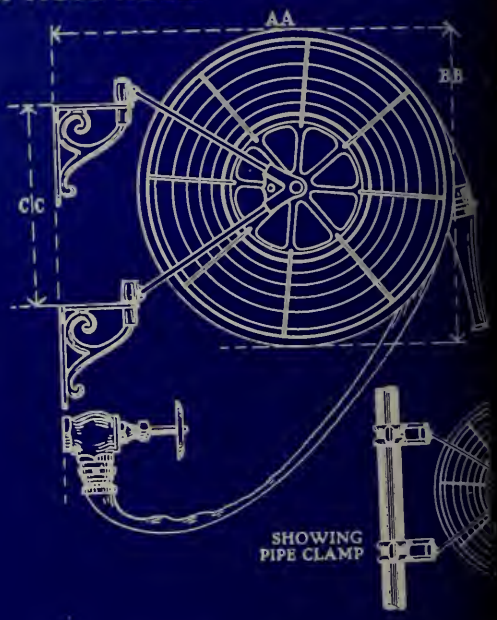

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612	2½"	150 ft.	50 ft.	28"	23	12¾	9¼"
*613	1¼" or 1½"	200 ft.	75 ft.	30"	21	11¾	9¾"
*614	2"	200 ft.	75 ft.	30"	21	11¾	12¾"
*615	2½"	200 ft.	75 ft.	30"	21	11¾	15¼"
*616	1½" or 1¼"	250 ft.	100 ft.	30"	21	11¾	12¾"
*617	2"	250 ft.	100 ft.	30"	21	11¾	15¼"
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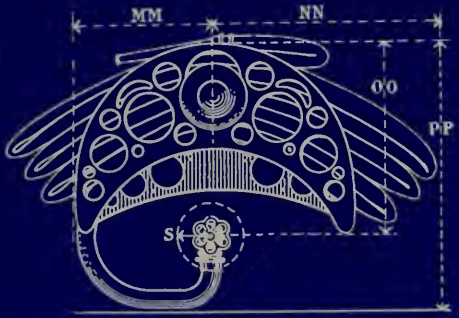

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*75' to 100'	1½"	13½"	21"	20"	26"	2⅜"	7¼"	7⅜"	8⅜"	42"	36"
50'	2"	13½"	21"	20"	28"	3"	4½"	9"	9¾"	42"	38"
*75' to 100'	2"	13½"	21"	20"	28"	3"	9¼"	9"	9¾"	42"	38"
50'	2½"	13½"	21"	20"	30"	3¾"	5½"	10½"	12¼"	42"	42"
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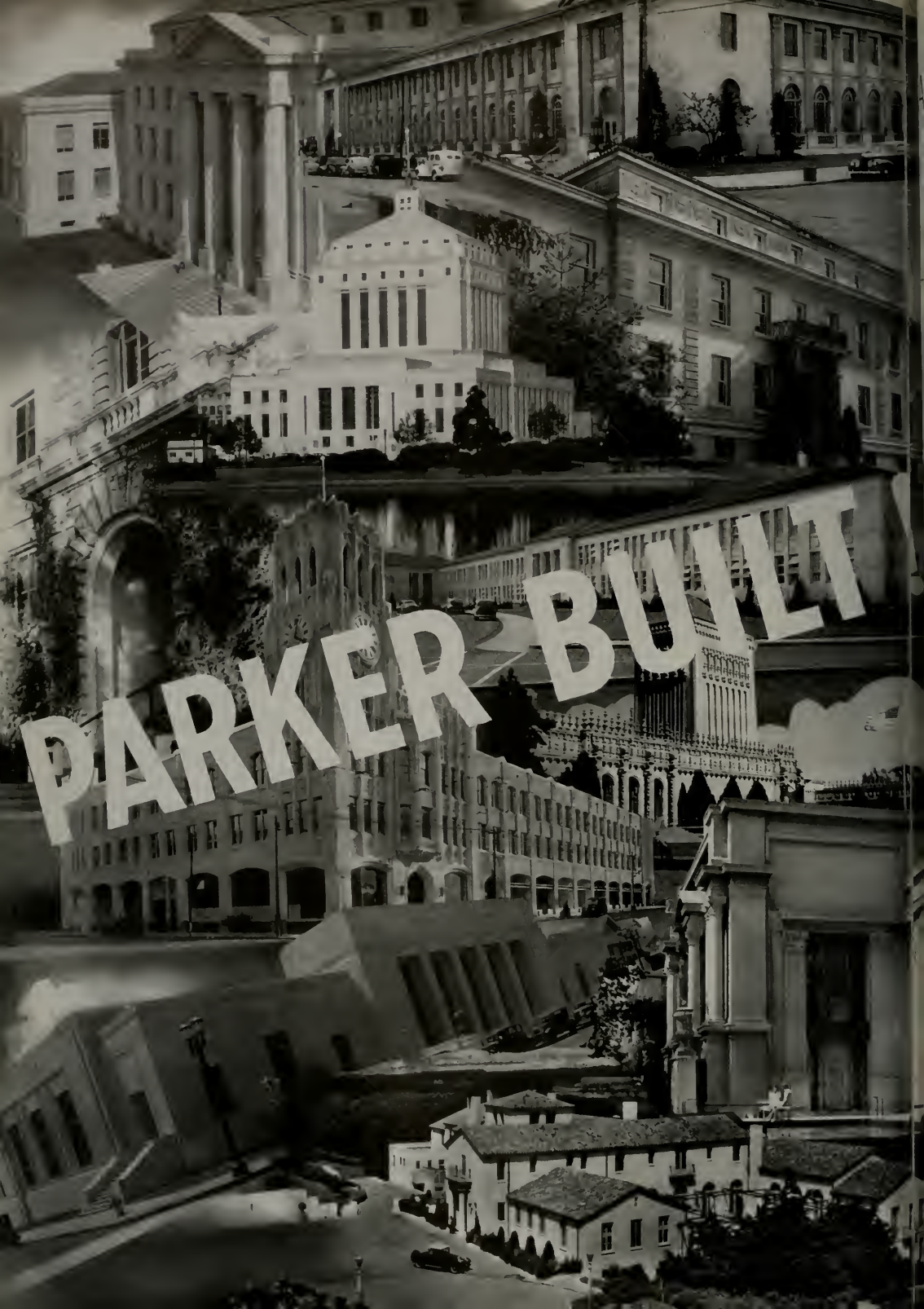
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ARCHITECT AND ENGINEER

MAY, 1943

Vol. 153 No. 2

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NEXT MONTH

SOMETHING a little different for ARCHITECT AND ENGINEER readers will be offered them next month, thanks to the cooperation of the San Francisco Museum of Art and the Department of Architecture, University of California, Berkeley. Student drawings of a street treatment of row-houses with a 25-foot lot in speculative buildings and which were exhibited last month at the Museum, will be reproduced together with a companion exhibit to a post-war city planning solution proposed by Carl Troedsson of the University of Southern California. The author calls his solution, "Safety-Town." Separate traffic lanes designed to reach all points in the community, are provided for both pedestrians and vehicles. The student work from the University was executed under the direction of Professor Howard Moise who will contributte the text matter descriptive of the drawings.

Those interested in "conversion" jobs of which there are a great many being done to relieve the war housing congestion, in the San Francisco Bay area, will find Sally Carrighar's article on the subject good reading. A recent example of this type of war work is illustrated with drawings by the architect, F. C. Langhorst.

Acalanes Union High School, Lafayette, California

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RUNNING FIRE — by MARK DANIELS

• *AD ABSURDUM*

When I was confronted, during my wife's absence with the contradictions in the regulations and requirements of food rationing and stamps, I thought I had found the ultimate in absurdities. Also I was deeply shocked to find that my wife could do such a cruel thing to a neophite in mathematics, one who had gone only so far as a degree in engineering and a few years in architecture. It smacked of a childhood spent in sticking pins through bees and butterflies, but it was all forgotten when I read of the situation that confronts the San Francisco Housing Authority. The only problem now is whether to cry or laugh.

After a year or so of Government surveys, so called, it was decided that the lowest possible rent that could be vouchsafed to those of low income would be calculated by placing a maximum income which one might receive and at the same time rent a low cost Federal Housing Unit. These units were well designed and a rental rate was established at one-half to one-third the amount at which equal but inferior accommodations could be secured. In other words if your income was more than the Housing Authority maximum you either had to pay private owners two or three times as much for the same accommodations, or live in greatly inferior quarters for which you would have to pay the same price.

During the three or four years that the Authority has been developing their projects the cost of living and the earning power of labor has risen so that few working men do or can live on the housing maximum, but the government says "You can't live in our house; you make too much money." So, you either go to a hotel (if you can get in one) and pay all your earnings for rent, or sleep in a vacant lot, (probably the latter) while the Authority dwellings remain vacant. Probably you would be better off financially if you accepted a pension and lived in a Government house.

This is a new way to penalize industry and reward indolence. It is a laugh—or is it?

• *UNWELCOME COMPETITION*

Competition may be the life of trade, but during the war let's confine it to commerce. Right now the government is bending every effort toward finding another pay streak in the vanishing mother lode of public financial resources. They propose to raise our income taxes to about double what we expected. They have just opened a cross vein that yielded fifteen billion dollars in war bonds, which we threw in like a white chip toward winning the war, and if the government calls upon us we'll do it again. We have capable men at the head who have studied thoroughly the propositions before they are submitted to us. Fair enough.

But when private organizations take it upon themselves to analyze war conditions and send out subscription blanks on a national scale asking for contributions for the relief of conditions, as if they were sitting in with the government, the competition is getting out of hand. If there are any more pay streaks let the government open them up. Otherwise, let's all pass the hat.

• *IN SEARCH OF PRIVACY*

During her recent visit to San Francisco, Mrs. Roosevelt told this one on herself during an address to 2500 inmates of San Quentin:

"The last time I was in Washington," she said, "Mr. Maverick of the W.P.B. asked me to meet with a group of War Production and prison officials. Shortly after that," she continued, "I went over to Baltimore to check in on the prison production there. I had to get up so early I didn't get to see the President before I left.

"As the President came out of his room to go to his office, he called to my secretary. 'Where's my Missus?' The secretary answered, 'She's in prison.' The president replied, 'I'm not surprised. What's she in for?'"

• *CUSTOM BUILT*

That's a better expression than "Pre-Fab" for it is more dignified and conveys a more accurate picture of what a factory-made house really is. Perhaps the use of some such phrase will go far to take the curse of misapprehension off the present conception of what is meant by the numerous titles that are used.

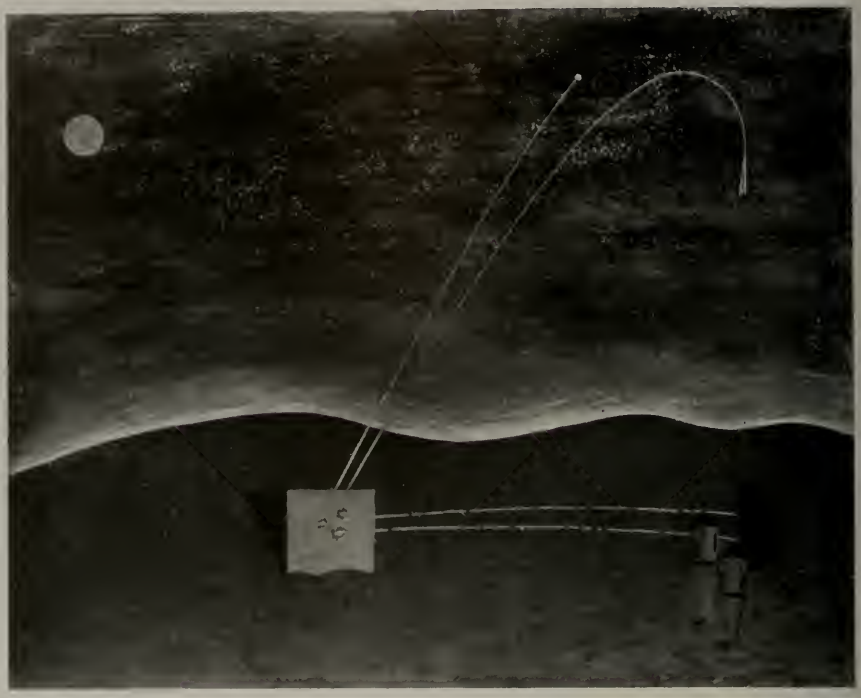
I could never find a sound reason for anticipating the extinction of the architect by the acceptance of factory building. When custom-made clothes started, no doubt the tailors were in a panic, but custom-made clothes are here to stay, and so are the users, but so are the tailors. Things have settled down to a routine. Those who want tailor-mades, pay for them, those who haven't the time or money are satisfied with custom-built and some have to put up with hand-me-downs.

That custom-built houses are here to stay there can be no doubt. They will improve in quality and practicability as the industry grows. We started with architectural hand-me-downs. Now the custom-builts are getting into a stride and we can look for bigger and better houses in that class, but to say that the custom-built house rings the death knell of the architect is absurd. THAT will be rung on an entirely different bell.

• *ANTI-MIRACLE LEGISLATION*

The Little Man came down the passage way unsteadily, although briskly, and stood on the step in an apparent effort to locate an old fashion glass that was not empty. I was sure that he still thought it was Sunday for he carried a small, dog-eared Bible in his hand. I beckoned to him.

"Miracles," he said, as he tossed off the remainder of my old fashion, "were not performed by Christ merely for the purpose of converting skeptics. He always had a great humanitarian purpose to which the conversion of skeptics was incidental. Healing the sick, for instance, and feeding the multitude. For centuries the human animal seemed to be beyond any aid of miracle until this world cataclysm overtook us. Here was a time when a miracle could save a world. With half the nation starving and the other half destined to starve, to feed the multitude with five loaves and two fishes would serve a noble purpose. But I fear this is outside the field of miracles for it would contravene all the O.P.A. regulations for rationing and the issuance of stamps."



RICOCHET by Aldis Leisner

PICTURES OF SAN FRANCISCO FIRE VIEWED WITH MUCH LOCAL INTEREST

Just concluded at the California Palace of the Legion of Honor in Lincoln Park was an exhibition of photographs of the great 1906 fire, taken by the late Arnold Genthe. Fire-fighting apparatus in action, refugees camping in the parks and vacant lots, street scenes, the wreckage of many important public and private buildings and panoramic views of the city during and immediately after the fire—all were included in the show that lasted all too short a period.

GIBSON DRAWINGS RECALL POPULARITY OF THE GIBSON GIRL

The Charles Dana Gibson drawings high lighted the late April and early May attractions at the California Palace of the Legion of Honor. The exhibition embraced most of Gibson's best drawings and a wide selection of his paintings, from as early as 1905 (when he first turned to oils seriously), down to the current year.

Born on September 14, 1867, in Roxbury, Massachusetts, Gibson inherited a tradition of accomplishment from statesmen, clergymen and artists. When his family moved to Flushing, Long Island, the young man soon found his way to the Art Students League of New York, where he studied two years with William Chase, Kenyon Cox, J. Alden Weir and Thomas Eakins. In 1886 he sold his first drawing to John Ames Mitchell, editor of Life Magazine. It was not long before Gibson was producing beautifully drawn satires dealing with New York politics and what might be called a sort of Bohemian life. Gradually he became more and more interested in the social cartoon and New York society in the 90's offered a real opportunity to the artist.

Young women of beauty and distinction began to appear in these drawings, and it was not long

Painting, "THE SOUTH SEAS," by Hamilton A. Wolf

before everyone was talking about the Gibson Girl. Irene Langhorne Gibson, the artist's wife, often served as the model. Probably no other character in American art has ever had the influence of this illustration.

At the height of his success, when Gibson had completely mastered his difficult medium and was able to do just about everything he wanted with pen and ink, he decided to leave the United States and devote himself to the study of painting in Europe. However, the financial crash of 1907 made it imperative for him to return and resume his black and white work. During World War I he was president of the Vigilantes Club, formed by a group of artists pledged to contribute their efforts toward winning the war. The government made him Head of the Division of Pictorial Publicity.

RARE JEWELRY ON DISPLAY AT THE DE YOUNG MUSEUM

At the De Young Museum a most interesting exhibit of Italian, Spanish and German jewelry of the 16th and 17th centuries is presented for public enjoyment. As a general rule pieces of the high quality currently on view can be seen only in state galleries—museums which were inaugurated by the private collections of emperors or kings. It is seldom that one finds more than a few such pieces in one exhibit.

This collection, belonging to Mr. A. M. Adler of New York and on temporary loan to the Museum, contains mostly pendants, the most frequently worn type of jewelry during the Renaissance and Baroque periods. In those days famous artists such as Cellini and Floetner were the designers for such jewelry whose high standard was carried on by the men who executed these designs. Precious stones and pearls, embossed and engraved gold in combination with enamel, form colorful pieces of exquisite craftsmanship. Especially interesting in some of these is the naturalistic portrayal of human and animal figures whose bodies are formed by large Baroque pearls.

In addition to the jewelry, finely carved ivory Madonnas and jewel caskets of the Medieval period, some from sources other than the Adler collection, are shown. The rarest piece in the entire exhibit is a Byzantine enamel crucifix dating back to the 11th century.

ROCOCO TEXTILES ON VIEW AT THE DE YOUNG MUSEUM

A Promenade with Watteau and Longhi is the theme of the present exhibition in the Textile Study Gallery at the de Young Museum. French and Italian culture of the 18th century is illustrated, partly through color prints of famous paintings by the masters of the time and partly through the textiles of the same period.

Luscious brocades and embroideries, costumes and laces depict the fashions of the day, both worldly and ecclesiastical garments, these same embroideries and brocades composing magnificent wall coverings and upholstery materials.

PORTRAIT OF A MAN L. Cranach, The Younger (1515-1686)
This recently acquired picture by the de Young Museum, San Francisco, was painted in 1545.

WORKING MODELS BY LEONARDO EXHIBITED AT THE LEGION PALACE

The First Modern, a unique exhibition at the California Palace of the Legion of Honor, in San Francisco, and which ended May 17, included 17 models of Leonardo's scientific inventions and 30 large charts composed of drawing facsimiles and photographs.

The section of working models proved particularly interesting, since it disclosed how Leonardo anticipated the scientific developments of the 20th Century with plans for tanks, bridges, automobiles, scaling ladders, aeroplanes and so forth, which, given motor power, would parallel actual modern inventions in many cases. These small-scale models followed the diagrams and instructions of Leonardo's notebooks to the finest detail.

EXHIBITIONS

The Sixty-ninth annual exhibition of students' work is now on and will continue to June 25 at the California School of Fine Arts, 800 Chestnut Street, San Francisco. A preview for the press and invited guests was held Sunday afternoon, May 16.

At the San Francisco Museum of Art the San Francisco Art Association is holding its seventh annual water color exhibition. Exhibitors include John Haley, Erle Loran, John Ayres, Irence Lagorio, Chas. Howard, Madge Knight, Geo. Post and others.

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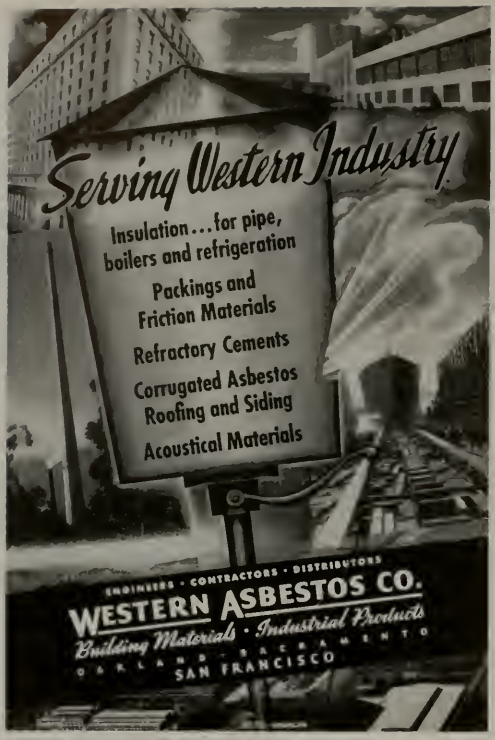

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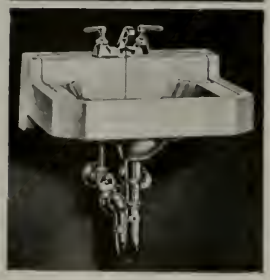

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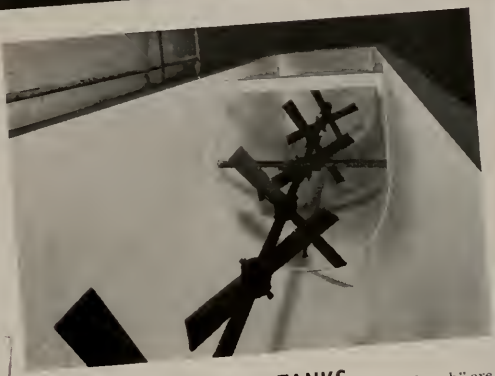

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POST-WAR SCHOOLS

by JOHN LYON REID

Faced by the rapid changes in the field of building construction that confront us today, specific predictions as to the forms of post-war buildings may be ill advised. However, in some fields there existed before the war well defined trends in planning to meet developing needs. These trends constitute a basis upon which a discussion of the post-war buildings may be undertaken.

School design is one. During the decade closed by the beginning of the war the design of school buildings in California gave evidence of growing skill and knowledge by the architectural profession in coping with the varied problems presented. The emphasis of the curriculums in all grades was shifting from learning from books to the coordinated training of head and hand. There was increased need for activity space of all kinds. Audio-visual aids in education were accorded a growing usage. The provision for increasing specialization in studies caused the development of courses in all kinds of shop work, in commercial studies and in the pure and applied sciences, including domestic science and sewing. The participation by the community at large in the life and activities of the school is likewise a trend of greatest significance.

EXETER UNION HIGH SCHOOL, EXETER, CALIF.

Upper picture is a general view of class room wing from south. Note protection to windows from sun by wide overhanging corridor roof. Other view is a close-up of exterior corridor. Note windows at right, facing north.

John Lyon Reid, author of the accompanying post-war school article, began his architectural career at the age of 14 and with the exception of eight years of teaching, as associate professor of architecture, Massachusetts Institute of Technology, he has specialized in school design. Mr. Reid has been associated with Messrs. Franklin & Kump since 1937.

SIX RECENT SCHOOLS

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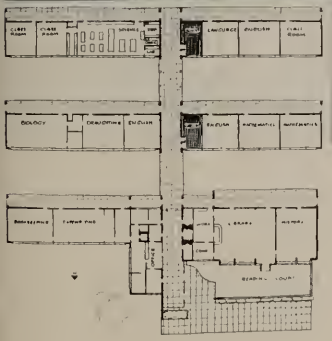
MARK FALK, Consulting Electrical Engineer



EXETER UNION HIGH SCHOOL

Upper right: Detail of entrance to main closed corridor.

Below: Entrance detail; library reading court at right.

Plan at left shows new group only. Original group, including auditorium, cafeteria, shops and art room, not shown in plan.

EXETER UNION HIGH SCHOOL

General view of library is shown in the upper picture;
below is library delivery desk. Seating equipment reused from old buildings.

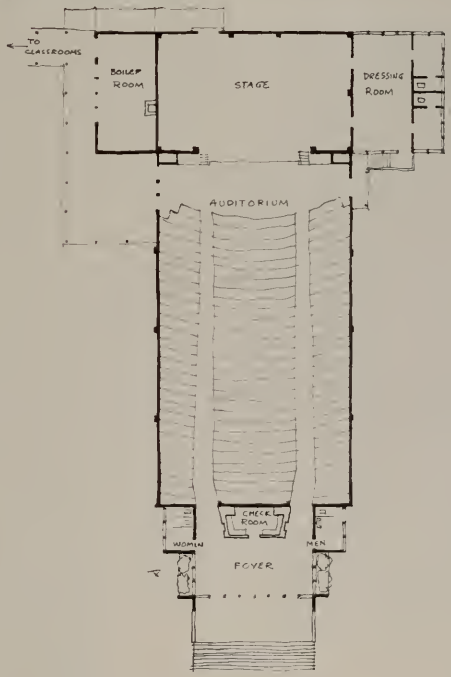
These trends existed before the war, have in some measure been vindicated by the war. Never before has such a high wage premium been paid for coordinated manual and mental skills. It is to be expected that these trends, greatly accelerated by the war will be continued by peace time needs. In addition, there have arisen since the war, new values and new opportunities in the field of education which give us something from which we may draw our conclusions as to the nature of the post-war school.

What may be assumed as the motivating forces in the planning of post-war schools and in their characteristics may be grouped as follows:

1.—The Concept of Education

The school is becoming the learning center of the entire community. Learning is not stopped by graduation. The trade schools for teaching war workers new vocations have been developed by war industries because sufficient facilities are not elsewhere available. In normal times this is a function that will be filled by schools.

PATTERSON UNION HIGH SCHOOL AUDITORIUM
PATTERSON, CALIFORNIA



PATTERSON UNION HIGH SCHOOL AUDITORIUM

Patterson, California

Entrance detail

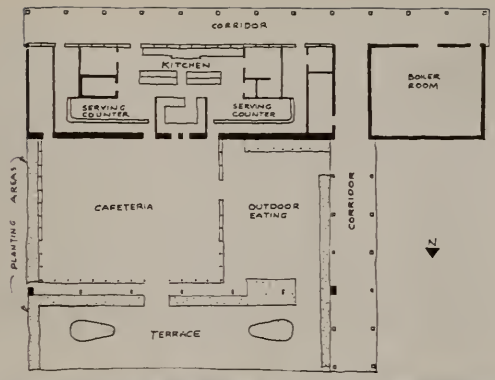
Interior of auditorium, looking toward proscenium. Right: Auditorium, looking toward rear. Space spanned by steel rigid frame arch.

Adult learners and young learners are very much alike in their needs; the meeting of these needs can be accomplished in one center. The library, the museum, and what is ordinarily thought of as the school proper, can all be consolidated, in the smaller communities at least, into one teaching center. And this can be accomplished too, with greater efficiency, less duplication of effort and facilities, and less expense to the public. This center will probably constitute one of the regional centers of higher learning in the form of a junior college or even a high school. The elementary schools may well serve as the neighborhood community and learning center for the more general and less specialized needs. If we are able to master our mounting problems in economics, employment and technology, the development of the machine will inevitably lead to shorter working hours. This means an added responsibility and an increasing opportunity for the schools in the growing available amount of leisure time.

The use of school facilities will be expanded to cover more than learning activities alone. Play and recreation have just as much of an appeal to adults as to children. However, the interest in play, if it is to be sustained, must be carefully organized with reference to community needs and handled by competent administrators. Most of the urban school sites are too restricted in size to permit such a program; schools must have ample outdoor areas planned for intensive play use. The two elementary schools at the Chabot Terrace project in Vallejo each have a site of $12\frac{1}{2}$ acres; the site of the intermediate or Junior High School is $17\frac{1}{2}$ acres.

The function of the school is not only to teach and train in abilities, skills, physical play and development, but also to instruct in proper eating habits. Cafeterias are considered indispensable parts of a complete school plant. A knowledge of food may be taught and put into practice. This will aid both in the development of a healthy body in the child and its maintenance in maturity.

So great is the need for war workers that



RICHLAND ELEMENTARY SCHOOL CAFETERIA SHAFTER, CALIFORNIA
Beneath plan is a view of cafeteria space, looking toward outdoor eating area. Pupils at lunch shown below.

RICHLAND ELEMENTARY SCHOOL CAFETERIA, RICHLAND, CALIFORNIA
Close-up of serving counter. Height of counter lowered for convenience of small children.

Washing area in Richland school. Pupils are required to wash before entering serving line.

Right center: Covered outdoor eating space.

Below: Detail of kitchen. Dishwashing area at left.

ACALANES UNION HIGH SCHOOL, LAFAYETTE, CALIFORNIA
This project embodies complete rural school facilities and is planned for intensive educational and community use.

ACALANES UNION HIGH SCHOOL

View from entrance drive. Cafeteria and outdoor eating unit at right; administration offices, center; class room wings, beyond.

DUCOR UNION ELEMENTARY SCHOOL
DUCOR, CALIFORNIA

Photo shows use of outdoor teaching area.

Above: Exterior corridor detail. Note continuous corridor windows.

Right: Detail of corridor with office at left.

the employment of women in all trades and industries is common. In the case of mothers with very young children the care of these children while the mothers are at work presents an acute problem. Even if hired help were available, which it is not, it is not possible

financially for most of these families to hire help.

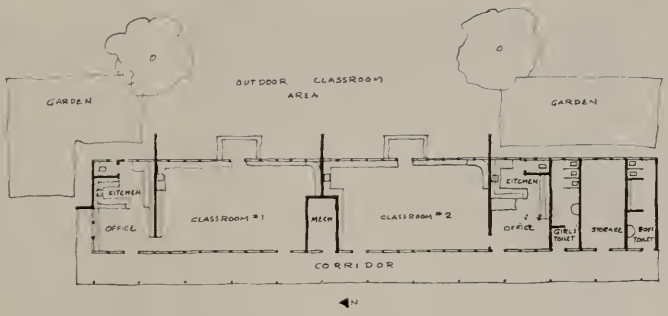
Many school districts in war housing areas are providing nursery schools for the care of these children. Where schools are not able to carry on nursery programs, this need has been met by nursery schools conducted by the industrial organizations for the children of their workers. This trend, i. e., the growing use of the nursery school, is one which may likely be carried over into the post-war period. The advantages of the nursery school accrue to parent and child alike. The early beginning of the formal education of the very young child may prove advantageous in the later years of schooling, and prove a strong factor in the retention in the school system of the nursery.

These expanded activities of the school, to be as effective as possible, mean a year round program of work. The investment represented by a school plant is too heavy a burden to the community to be allowed to remain closed during a quarter of the calendar year.

2.—The Curriculum

The enlargement of our concept of education is having its counterpart in the development of the form and character of the curriculum. This latter as directly affects planning as does the former.

Years ago the curriculum was based on the idea of imparting to the learners the fundamental theories of our knowledge and the cultures. The problem of their application to daily life was secondary, albeit unwittingly.



DUCOR ELEMENTARY SCHOOL

Upper view: class room and activity area. Note built-in lockers and storage space.

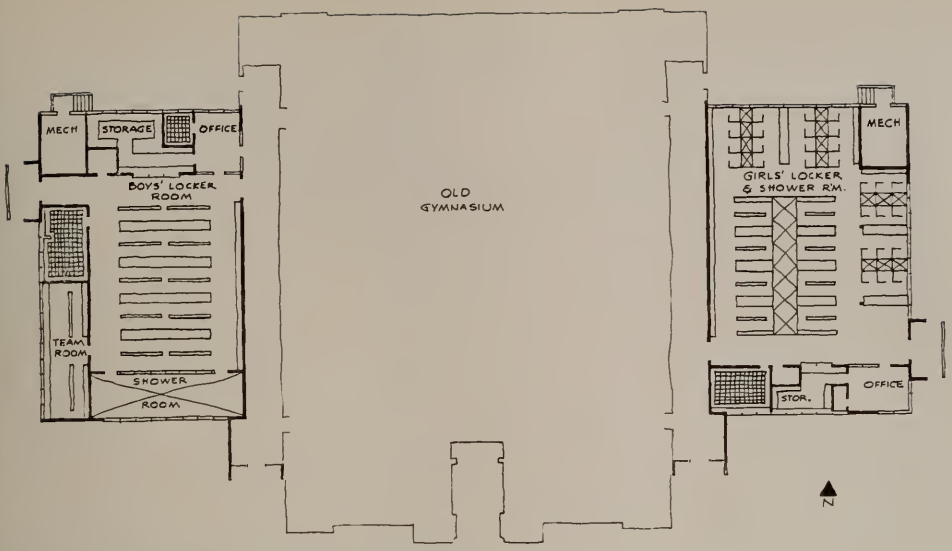
Below: Seating area. Reading nook at left front of room. Note bi-lateral window arrangement.

WASCO UNION HIGH SCHOOL, WASCO CALIFORNIA

Locker and shower room. Air of locker room is exhausted through lockers which removes odors and dries the clothing.

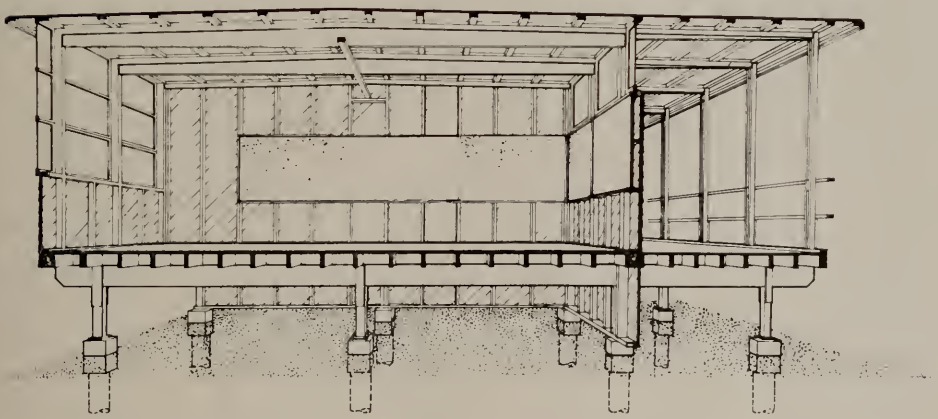
ENTRANCE TO BOYS' LOCKER AND SHOWER ROOM

DETAIL OF BOYS' SHOWER
NOTE OVERHEAD PIPES TO HANG TOWELS

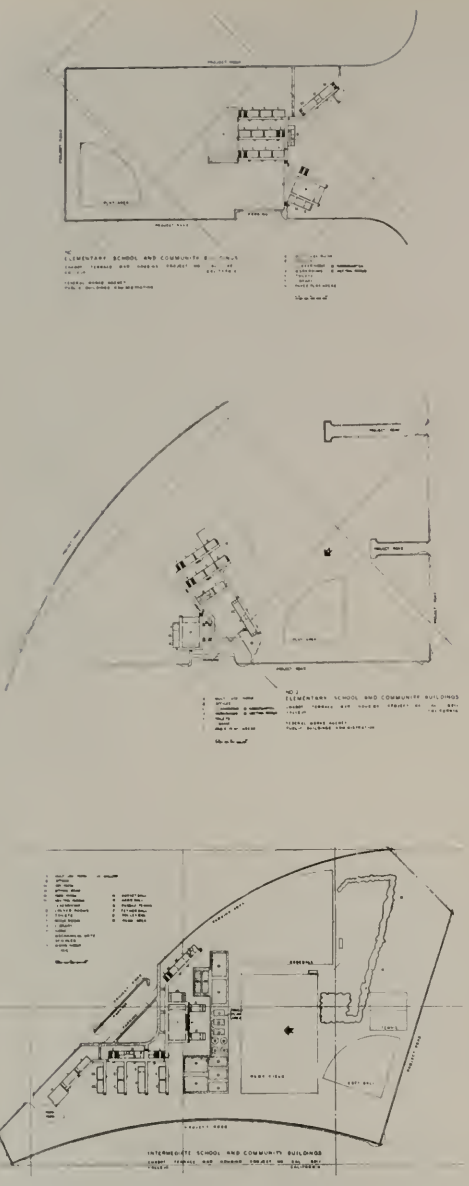


WASCO UNION HIGH SCHOOL, WASCO, CALIFORNIA

Plan shows position of old gymnasium and boys' and girls' new locker rooms and showers.



TYPICAL CLASSROOM
SCHOOL AND COMMUNITY BUILDINGS
CHABOT TERRACE WAR HOUSING PROJECT NO CAL 4211
VALLEJO CALIFORNIA



PLANS FOR EDUCATIONAL AND COMMUNITY FACILITIES FOR CHABOT TERRACE WAR HOUSING PROJECT, NO. CAL. 4211, VALLEJO, BEING BUILT BY PUBLIC BUILDING ADMINISTRATION

These three schools serve a housing project of 3,000 dwellings.

Franklin & Kump & Associates,

Wm. W. Wurster, Architects Associated

Growing importance is attached to equipping our children with the experience and the ability to apply knowledge and theories to the problems of living. This is accomplished, in general, by the integration of the studies with the life of the community, and by affording the child an opportunity to participate in activities that apply the principles he is learning. In elementary schools space is provided in the classroom for an expanded program of activity. Work tables and a large amount of various kinds of storage space for work materials and equipment are needed in addition to the seating area. In the higher grades, the increasing need for specialization as the child matures demands a great range of facilities and space. Neither cooking, sewing, automobile repair nor agriculture can be taught exclusively from a book. The proper relation of facilities and space for theory and for practice are of fundamental importance. The expectation by a graduating student that he be properly equipped and trained to enter life and earn a living is logical. The increasing complexity and specialization of our life must be mirrored in some measure by opportunities afforded in education.

Many schools at present conduct trips for their students to neighboring communities, even to nearby states. This is of immeasurable help in broadening the child's outlook, in making him realize that the community of which he is a member is only a unit of a larger fabric.

The provision in the school plant for activities of the community brings the adult to the school to the mutual advantage of oldster and pupil. The meetings of service clubs, P.T.A., lectures, pictures and even socials have the intangible but none the less valuable function of bringing the community into the school. The proper provision of space and its functional segregation complicates the work of the planner.

Flexibility also is an essential in school planning. This is meant to include provision for future growth of the plant, mechanical and curriculum changes, as well as the means to move partitions readily.

(Turn to Page 32)

POST-WAR CITY PLANNING AND REBUILDING

by JACOB L. CRANE, JR.*

Today housing is an implement of war. Like other such implements it is expendable, and its production is guided not by the needs of the future but by the urgent necessities of the present. The energies of the National Housing Agency, of all of us here today, and of the entire building industry, are dominated by that objective; and for the time being we have had to lay aside most of our efforts to build and rebuild our cities into good communities for human life.

But even in our devotion to the tremendous war task we cannot escape the realization of our responsibilities when the war has been won. Today housing serves the nation as an essential activity behind the front; I am confident that it will take its position as one of the main fronts tomorrow. The housing job which will face us then will be bigger and more complicated than war housing.

Without detracting from our present work we must somehow look ahead and chart the strategy for our sector in the peace-time battle of the United States for full employment and full lives. It is time now to try to understand the forces which will be at work and the problems and opportunities which they will create.

This nation will enter the peace with the greatest urban housing shortage in its history. The backlog of need with which we began the war will have been swelled by war migrations. Against this background, the return of millions of men from the armed services, a large proportion of them single and of marriageable age and inclination, will precipitate an acute housing crisis in many localities.

Recent estimates from various sources indicate a national need for from one million to two million new and rebuilt houses per year for perhaps ten years after the war. Something like one-third to one-half of this need will probably be for workers whose incomes range from very low figures up to about $2,000 per year, of 1942 dollars.

We will have not only a heavy pressure of need and demand but will also have the manpower and other resources to do this huge job. There is remarkable agreement, both in industry and government, among those who have been studying the shift from full employment in war to full employment in peace, that the production of housing must be one of the greatest activities in which our released manpower can be engaged. Directly and indirectly, the construction of 1,500,000 new and modernized homes per year would employ about one-fifth of the 15,000,000 workers that Vice-President Wallace has estimated will be looking for jobs at the end of the war. But this volume of home building, creating long-term wealth, and carried on with both private and public participation, would require only about one-tenth of that part of our annual national income that we are now consuming for purely war purposes.

What will be required to set this productive effort in motion? With respect to construction for those customers who can pay "economic" prices, little special encouragement will be needed. A huge demand will exist and the means will be at hand. Billions of dollars in savings are being accumulated. Incomes are increasing in the lower brackets, so that large numbers can pay higher rents or purchase prices. As a result of the technological and organizational progress in building and related industries during the war, better houses can now be provided at lower actual total cost than before.

Although the scope of local authority activities cannot yet be fully foreseen, I have no doubt that they will play a great part in the post-war housing job.

In short, I believe that the stage will be set for the greatest productive effort in housing that we have ever seen. I feel less concerned about whether this production is to be set in motion than with its timing and with the direction it will take.

The elements exist which, if uncontrolled,

* Director of Urban Studies, National Housing Agency, Washington, D. C. An address at Northeast Regional Conference, National Association of Housing Officials, Boston, Mass.

might create a wild boom, carrying further the haphazard explosion of our urban areas out into the uncontrolled suburban fringe, with wildcat developments, further excess subdividing, wasted utilities, costly services and potential slums. The very violence of the boom could make it self-destroying, for the market could rapidly be overbuilt at certain price levels, with lost equities, mortgage delinquency, and then deep depression.

On the other hand this great productive activity could be the start toward making cities out of housing programs. We could accomplish the double purpose of providing the needed housing and at the same time starting our cities on the route toward functional and aesthetic order. With the trend toward stabilization of population in our urban areas, in place of the rapid growth of past decades, the great postwar building activity may not take place again at any time in the conceivable future. It would therefore be tragic to miss the postwar opportunities which are offered to business and government and especially to local governments.

If these powerful forces in prospect are to be guided by principles of rational urban growth and redevelopment, each urban community must begin now to prepare for them. Each one will need a good idea of where it is going, how it can get there, and with what resource. Each one will require a concept of the proper future function of each area and of the methods—physical, legal, financial, and organizational—by which that function can be achieved.

What I am talking about, of course, is planning, although I have not until now used that word. It seems to me that you must begin—in your local communities—to prepare your plans and programs now. No one but the community itself can do it. The federal government may be able to give some technical and perhaps financial assistance, but success of your community will inevitably rest on the quality of its own leadership.

Perhaps I should offer a word of caution about that term "community." In the sense in which I am using the term no city or other single political unit is a community if it forms **only a part** of a total urban area. The entire locality constitutes the urban community, and effective planning and development must proceed in this framework.

Once a broad underlying plan has been formed, the community will be in a position to formulate a housing program, through the cooperation of the various individuals and agencies directly concerned. The housing program would have as its purpose the provision of the needed houses, in the right places, of the proper types and standards, for the right income groups—**and not too many for any one neighborhood or any one price range.** It would seek to secure the production of all of the needed housing in a long-term building program which served the best interests of the consumers, the building industry, and of the urban locality as a whole. I do not underestimate the difficulties which confront the community in developing and establishing that kind of program, but I think it can be done.

The community housing program will have to be elastic, changing as necessary to meet immediate needs, while still conforming to future objectives. In the immediate postwar period, for example, low-rent and medium-rent housing may have to be developed very rapidly, both to provide houses and to provide critical transition-period employment. So that they may go ahead without delay, many of these projects may have to be on vacant, readily-available land. Meanwhile, preparations can be made for clearance and redevelopment work, upon which most communities will focus much of their attention sooner or later.

The locality which possesses both an underlying plan and a housing program has a yardstick against which the suitability and the probable economic success of any proposed housing development can be measured. The test will be a dual one: Does the development provide needed housing; and does it help carry out the long-term plan for the neighborhood and for the whole community?

The test will be especially useful when you come to that particularly difficult problem—the wholesale rebuilding of your slums and blighted areas. Local housing authorities already have made a start on that work, and they may be required to expand their operations in

the post-war period; but a great effort will be made to enlist private capital and management in the job. Therefore, it is not unlikely that a substantial part of the postwar building activities will eventually be directed into the central areas.

This effort, both private and public, is essential, and must be promoted by all suitable means. Yet I think that there are some dangerous elements in the situation.

We have talked so much about the need for rebuilding the blighted areas that we may sometimes forget that reconstruction is not necessarily a good thing in itself. There is no merit in replacing old housing by new in an area which may be needed more for industrial activities. Nothing may be gained in the long run by a rebuilding operation which perpetuates unnecessarily high density and gives precedent for maintaining fictitiously high assessed valuations, where the future welfare of the city community demands a land economy adapted to its needs for rebuilding.

In short, there is no inherent magic in redevelopment as such. Newness in itself is not a virtue. The merit of any redevelopment project, public or private, must be tested in the light of the basic plan and housing program of that community.

I believe that local housing authorities should and will become concerned with more and more aspects of this complex problem of urban development. Those of you from local authorities will have not only your own operations to worry about, but increasingly you will find opportunities to assist private management in its part of the job. It seems to me that you should be alert to perceive what services or facilities you can put at the disposal of the responsible private builders. Perhaps your experience in large scale operations has taught you methods—technological or organizational—which will assist the private developer to build for lower levels of income than has until now been possible. Your studies may reveal sites most suitable for private development. A broad concept of your job can pay dividends to your community.

It is a long way, I realize, from glib generalities to a workable community plan and housing program. But nothing can bridge that gap except the vision and cooperative effort of the community itself. There will be a magnificent role for housing in the post-war drama, and we will be one of the few great industries possessing no right to ask time and delay for conversion from war to peace work. We have to be ready, and we have to get ready now.

NEW TREND IN HOUSING

A definite trend away from permanent housing for war workers was reported to the City Planning Division meeting by Jacob L. Crane Jr., director of urban studies for the National Housing Agency. In the earlier stages of the war housing program, Mr. Crane said, it seemed clear that government war housing, when built in localities where it could be used after the war, would be most economical if designed to permit its occupancy for 20 years or more. Accordingly, in most of the built-up areas of defense production, some permanent government war housing was built. Similarly, for the localities where the government war housing would not be needed after the war, it seemed clearly economical to provide demountable housing which could be moved after the war for use elsewhere. Now, the urgent need for the economical use of materials has forced the government war housing program almost wholly into the provision of temporary dormitories, temporary dormitory apartments for couples, and temporary family dwelling units. All three categories are reduced to minimum floor areas and minimum use of metals.

Postwar housing was the subject of a paper by Harland Bartholomew, city planner at St. Louis, Mo. He estimates that to meet housing requirements in the 10-year period following the war, construction of 828,000 non-farm dwelling units yearly will be required. This total would include 140,000 units to accommodate new population growth in cities; 336,000 units to replace obsolete units now 50 years or more of age; and 352,000 units becoming obsolete each year.

If citizen's groups do not work hard and effectively, 95 percent of all postwar housing in American cities will be built in remote suburban areas, Mr. Bartholomew believes.—Engineering News Record.

—Courtesy Westinghouse and American Standards Association

Protective lighting of industrial properties prevents saboteurs from reaching vital war-production objectives under cover of darkness.

CORRECT LIGHTING PROTECTS AGAINST SABOTAGE

by CYRIL AINSWORTH*

Those who have passed industrial plants engaged in war work and have noticed the extensive illumination which surrounds the buildings and properties have probably realized that this lighting is intended to decrease the possibility of theft or sabotage. Few may have realized, however, how extensive are the technical considerations which have gone into the installation of such a lighting system. Several months of work by a group of experts, as well as comment and criticism from a large group of key individuals, went into preparation of the recently completed American War Standard for Protective Lighting of Industrial Properties.

Many industrial plants had already installed protective lighting systems long before the war. After the war started, however, the administrative authorities concerned asked other plants to install such systems in order that production might not be interrupted through sabotage. This greatly increased demand for effective protective lighting immediately pointed to the need for specifications to outline satisfactory requirements for a protective lighting system. To meet this need, the Insurance Committee for the Protection of American Industrial Plants asked the American Standards Association to initiate a project on outdoor protective lighting of industrial properties. Soon after this request, the War Department made a similar request, but later, before the project was completed, withdrew as a joint sponsor for the undertaking.

The American Standards Association agreed to undertake the development of these specifications under its War Standards Procedure, and organized a technical committee to assemble technical data, prepare a draft specification, and review the comments and criticisms received from persons interested.

PRINCIPLES OF PROTECTIVE LIGHTING

This committee first proceeded to determine just what protective lighting was designed to accomplish, and what principles should be followed in the writing of the specifications. Its findings can best be illustrated by quoting directly from the standard:

"Adequate light and normal vision are the essential tools for seeing quickly, accurately, and easily. Many benefits of more light and better lighting have been revealed since the First World War. This increasing knowledge has been revolutionizing lighting recommendations and practices. These benefits which are appealing in peacetime become essential in wartime with no end in sight for the all-out effort to produce maximally with the least waste in human and material resources.

" 'Protective' lighting is a wartime auxiliary to 'productive' lighting. It must combat darkness which crowds in from everywhere at night. Here it promotes safety and security from sabotage and in this protective role light should reveal the saboteur while darkness should conceal the guard. Here glare, so undesirable in productive lighting, can be utilized in protective lighting to blind the trespasser and to obscure the guard.

"In the darkness outdoors the problems of seeing are doubly important. The guard's eyes should be protected from brightness and glare so that they remain dark-adapted. In this state they can detect very low brightness and, therefore, movements. Good protective seeing is achieved by adequate light upon no-man's-land, glaring light in the eyes of the trespasser, and no light upon the guard; and in aiming to provide protective seeing, high brightness-contrast between trespasser and background should be a first consideration. This may be accomplished by adequate light and the proper use of paint.

"Protective lighting is intended to facilitate the night-time policing of vulnerable properties. It is therefore essential that it be designed to provide adequately for policing requirements."

HOW TO MEASURE EFFICIENCY

Having established the objective of protective lighting, the committee then enumerated the following basic principles which may be applied to any protective lighting system as a measure of its efficiency:

* Acting Chairman of the American War Committee on Protective Lighting of Industrial Properties.

A watchman is screened from the saboteur by the glare of protective floodlights, but has a clear view of any intruder.

(a) It should provide adequate illumination to discourage and detect attempts to enter a property, and to reveal unauthorized persons within the property.

(b) It should avoid glare that handicaps the guards or is a source of annoyance to street and highway traffic, marine or railroad operations, occupants of adjacent buildings, or workers on neighboring projects.

Glare directed at the intruder, if not in violation of the above, is effective in handicapping the seeing ability of the would-be saboteur and in preventing the discovery of the guard.

(c) It should illuminate shadowed areas caused by adjacent structures.

(d) It should coordinate the lighting with the guard stations or patrol routes to provide maximum concealment for the guard. Patrol roads and paths should be kept in relative darkness.

(e) It should avoid leaving areas dependent upon a single lamp or circumstances where the failure of one lamp, as for example in the boundary circuit, would create a dark passageway into the property.

(f) It should provide special treatment for such situations as railroad sidings, alleys, roofs of abutting buildings, wooded or water approaches, entrances and exits.

(g) It should be dependable in operation and provision should be made for convenient control and maintenance. Suitable control is essential for purposes of blackout.

(h) Means of concealment such as bushes, tall grass, and weeds should wherever possible be removed from approaches to the property.

(i) Poles, lighting equipment, and electrical auxiliaries should be located inside the property fence or where they are not readily accessible to malicious damage.

(j) It is desirable to supplement the fixed lighting with searchlights controllable by the guards and permitting explorations outside the property or augmenting the fixed lighting within the property in the event of an emergency.

Realizing that industrial plants differ widely in their physical character and that specific rules could not be stated for all possible conditions, the committee in building the standard decided to set up general rules supplemented by appendix material that would be sufficiently comprehensive for adaptation to specific situations.

MINIMUM LEVELS RECOMMENDED

The committee has been careful to point out that in applying the provisions of the standard, the illumination levels recommended are the minimum levels believed to be necessary for policing properties, but that the levels are not necessarily adequate for efficiency from the standpoint of plant operations. For example, the lighting recommended as a protective

A saboteur, attempting to enter a correctly lighted industrial property, is blinded by the direct beams of the protective lighting system.

measure for a stock pile is not necessarily sufficient illumination to permit of maximum efficiency or safety for workmen handling the material.

The question that is most often asked by persons interested in protective lighting is: "Does the standard cover protective lighting for industrial properties located in dimout areas?" This question was discussed at considerable length by the members of the committee who decided that inasmuch as the values specified in the standard were the minimum values that should be obtained and still provide protection from theft and sabotage, it was impossible for the committee to prepare any specifications for protective lighting of industrial properties located in dimout areas. It recommended that persons interested in protective lighting for properties in dimout areas should confer with those responsible for the administration of dimout and blackout regulations in the areas where the plants are located. In other words, dimout lighting and protective lighting are actually in conflict with one another, and industrial plants in dimout areas must be guided by the advice received from the properly constituted authorities.

The specifications for protective lighting systems are divided into two main parts: the first pertains to boundary and approaches; and the second to areas and structures within property lines. Boundaries are in turn discussed according to whether or not they are fenced boundaries, unfenced boundaries, or whether the boundaries are formed by building faces. Boundaries formed by water fronts, and the entrances through boundaries are also covered.

The appendix to the standard is very extensive and discusses in some detail the types of lighting equipment which are most suitable for protective lighting purposes. It describes the conditions and locations where particular types of lighting equipment can be used to the best advantage, types of circuits, and control methods. Typical methods of obtaining specified illumination values are outlined, and sketches are provided which clearly illustrate the typical methods discussed in the text.

It has already been mentioned that many industrial plants had installed protective lighting at the time of the outbreak of the war. The new specifications will be of value to such organizations in carrying out studies to determine the efficiency of their lighting systems. It is quite likely, however, that plants which have not already installed protective lighting may experience some difficulties now in securing the necessary materials. The relation of the work of the plant with the war effort will undoubtedly have a definite bearing on this problem.

The interested governmental agencies, insurance groups, and industrial plants are indebted to the technical committee for the valuable advice and assistance which they have given throughout the development of these specifications.

POST-WAR SCHOOLS

(Continued from Page 24)

3.—Science and Technology

Most schools at present have public address systems and the means to project pictures as a part of the regular classroom instruction. This has made it possible to bring the voices and images of the outside world into the classroom in a way with which all are familiar. We are led to believe that television will be within the reach of all in the near future. The rate of development of new media of communication may make this a reality soon after the war. New and unknown factors such as this may therefore affect the size, shape, and mechanical equipment of classrooms.

Much closer to our experiences as designers and builders are the new developments in building materials. A great variety of new materials may be expected after the war. Some will make it possible to employ familiar building practices and forms much more simply, inexpensively and satisfactorily. Others will make possible the development of new forms, ideas and practices. The wealth of new materials has led to much prediction, speculation and philosophy, to which this article can add little.

However, the practice of prefabrication in war building has established the value of prefabrication as a building practice. The use of inexpensive materials, the need for haste in construction, both of these a war necessity, has subjected prefabrication to unwarranted criticism. New and better materials, new machines and construction methods, added to our present technique of prefabrication, are sure to bring about a still wider acceptance of prefabrication methods.

To the best knowledge of the writer, the Carquinez Heights Elementary School in Vallejo and the Pacific Beach Elementary School in San Diego, were the first schools of their scope and size to be built by modern prefabrication methods. Both were designed by Franklin & Kump and Associates, Carquinez Heights with William Wilson Wurster as consultant. The two schools represented economies and speed in construction with no sacrifice of anything considered desirable in functional school design.

PREFABRICATED SCHOOLS A REALITY

Embodied in the prefabricated school buildings, illustrated in this article, are these features:

- **structurally independent unit buildings to form an integral building group.**
- **complete flexibility for any site arrangement or climate.**
- **foundations adaptable to any conditions — level or hilly ground.**
- **scientifically designed classrooms and facilities endorsed by leading educators.**
- **structural and safety features approved by state and municipal engineering departments.**
- **design based on experience.**

It is a generally accepted fact that the life of schools should be limited to the length of the bond issue needed to build them. This points in the direction of a shorter life for schools with less of the tax payers' money spent for permanence and monumentality. This permits the educational plant to keep pace with the advances in curriculum and equipment. A permanent or long life school hampers educational development. Prefabrication may be one of the factors contributing to the solution of this problem.

One more point which does not readily fall into any of the foregoing groups should be added here. It is pure speculation but deals with a problem in urban school planning. Smaller communities have developed a highly organized school bus system to transport pupils from outlying districts to population centers. The need for large sites for schools is recognized as a necessity and yet it is all but impossible in most urban locations to obtain adequate land. If the land were available, costs would be all but prohibitive.

City and regional planning have not as yet been able to provide all schools with desirable urban sites.

It may be that the urban school of the future will be located outside the city where open space is available. Pupils will be transported by the school district to the school. Openness, fresh air and sunshine are of immeasurable value to the young children in lower school grades, particularly those whose homes are in the congested city districts.

STRUCTURAL ENGINEERS ARE GO-GETTERS

The following are highlights of a talk by Past President Clement Wiskocil at a recent meeting of the Structural Engineers Association of Northern California at the Engineers' Club of San Francisco:

PROF. CLEMENT WISKOCIL
University of California, Berkeley

"Look about you, does your neighbor seem to be suffering with a pain in his neck? I know that at least one of you here this evening is affected because while in the crowd before dinner I overheard someone say, 'Whisky gives me a pain in the neck' and what's more, 'casting an eye to the future is just so much baloney.' That was a humorous remark by a good friend who knew I could hear him. So while I'm unquestionably responsible for his trouble, all of you are more or less the cause of my discomfort because I got my stiff neck as a result of my efforts in your behalf—craning to peer around the ever-present corner into the future.

"However we cannot side-step the subject with a facetious quip or wise-crack; the future beckons too urgently! Even the problems of our Association are a part of a dynamic, interdependent world, now in the throes of swift transition. Perhaps at no other time were more people looking more anxiously and hopefully to the future.

"All of you have heard of prophets. Wasn't it an anonymous soothsayer who warned Julius Caesar to "beware the Ides of March"—a good but unheeded forecast? Some among you may recall that the famous Hebrew prophet Daniel, a courageous lad, proved that the handwriting on Belshazzar's wall dealt with the future. Moreover, wasn't it Cassandra who was punished by the Olympian God Apollo, whose "directive" prevented anyone from believing her forecasts? So it appears to have been the fair Cassandra who unknowingly set the custom which seems to be the fate of all prognosticators.

"But what of it? Well just this. You wouldn't want me to venture even a hasty glance into the future knowing that no one would believe me anyway. Besides those who are too definite in their forecasts merely invite trouble. Haven't many of the records computed by our track coach Brutus Hamilton as being the maximum possible of human skill and endurance already been exceeded? According to his 1935 forecast, Warmerdam should not be vaulting over a bar set at 15 feet. But hasn't he done just that some 27 times? And what's more he is close to 16 feet!

"If creditable performance is a criterion, Hamilton should have been an accurate prophet; at least his forecasts were interesting. However, I have no record of either performance or prophecy behind me. But does lack of personal achievement necessarily preclude ability to tell others how to do it? Didn't Ed Gallagher's Oklahoma A. & M. wrestling teams win 14 out of 15 intercollegiate titles? Yet Gallagher never wrestled in his life. Hiram Conibear, who developed the outstanding Washington crews, never pulled an oar! And Johnny Weismuller's coach never swam a stroke!

"I'm not in the class of these fellows, neither am I trying to establish an alibi, but after reciting these interesting incidents may I present this thought—no man's opinion is entirely worthless, for even a ten-cent watch tells the correct time twice each day. So now let's look at 'SEAONC.' This Association is now in its fourteenth year with its eleventh president. It has established an enviable reputation throughout California. One only hears the most favorable comments, such as 'there's the livest organization I know of,' and 'the Structurals—meaning you—are go-getters.' These are the characteristics of a youthful, vigorous organization. They typify a state of mind, a quality of imagination and vigor of the emotions. Surely they can be continued if those among you who are responsible for this record of worth-while accomplishments will not only keep up the good work but also bring younger men into your organization and work with them so as to give them the direct benefit of your counsel. Pass on to them the courage that has been yours!

"There are many vehicles for your activities; but why not continue to use the Committees such as, Research, Welfare, Public Relations, Consulting Practice and Legislative which have been so effective in the past? But why name more, you know them as well as I do. Furthermore, you are in a most strategic position. All of your membership and authority are close at hand. You can operate quickly and effectively—no waiting for a policy to be established by a G. H. Q. shall we say, in New York? Besides there are many traits of human nature in your favor. For example, you know that people work hard to establish their superiority in the eyes of others: that most of them yield to suggestion when flattered: that they follow leaders blindly (some actually seem to do it not only with their eyes shut but with their mouths open): and that they accept ready-made beliefs and stick to them. Now knowing some of these characteristics why not make use of them to accomplish worth-while aims?

"So why not participate in general activities, not only those peculiar to our profession? We must not be satisfied with merely working with our own problems,

for even their solution depends upon our breadth of outlook, our interests and activities. Remember that not all world problems can be solved by a technologic approach. Why aren't more engineers willing to run for political office? Why not each of you take a more active part in the community in which you live? It seems to me that the place of our technical organizations and the future of the engineer as an individual depend to a large extent on his attitude and the part he is willing to take in movements which deal with the great issues of life.

"To many of us the future means an unpredictable change. Yet as we look ahead, aren't there many sound, stable elements of life that should hold us steady? The old world stays in its exact orbit so that one season follows another; two plus two continue to be four; the ceaseless laws of friendship still operate; a lie is a lie, and the truth is still powerful. So let's not be bewildered as we look into the future. Your duties and responsibilities as a member of human society will not change. Nothing can deprive you of them except a false belief that they no longer exist. They do exist. See that you make the most of them!"

STRUCTURAL ENGINEERS VISIT SHIPYARD

Barrett & Hilp, who are building ships and ships at the Belair Shipyard, South San Francisco, invited the members of the Structural Engineers' Association of Northern California to visit the plant, Saturday, May 8. There was a good sized turnout.

On Tuesday, May 4, J. F. Barrett, member of the Barrett & Hilp organization, addressed the members at the bi-monthly dinner at the Engineers' Club. He spoke on "Concrete Ship Construction." Another speaker, Stanley C. King, discussed the design features of concrete ship building. King is a member of the engineering firm of Ellison and King of San Francisco.

THE CANADIAN-ALASKAN HIGHWAY

"The Canadian-Alaskan Highway," was the subject of a talk by Dr. Laurence I. Hewes, C. E., at the regular bi-monthly meeting of the San Francisco Section, A. S. C. E., held at the Engineers' Club, San Francisco, April 20.

Dr. Hewes has been with the U. S. Public Roads Administration for thirty-two years, and, during the past twenty years has been Chief of the Western Region where he had full charge of Federal aid work and National Park and Forest road construction in the eleven western states, Alaska and Hawaii. He is representative of the Commissioner of Public Roads on the Canadian-Alaskan Highway and is author of two recent volumes on American highway construction.

Dr. Hewes' talk was illustrated with natural colored slides of the project.

FLAG COVER COMPETITION

In support of the Treasury Department's War Savings Program, the United States Flag Association announces a 1943 Magazine Flag Cover Competition with the Patriotic Service Cross, and citation, awarded for the best cover in four types of publications: (1) Monthly magazines of general circulation; (2) Weekly magazines; (3) Organization and trade magazines; (4) House organs and miscellaneous magazines.

ENGINEERS AND ARCHITECTS ANNUAL

One of the largest turn-outs of the year marked the annual meeting of the Engineers and Architects Association of Southern California at Los Angeles the evening of April 29. Outstanding features of the celebration included a splendid dinner for only $1.25 per plate, (including tip); vocal selections by Miss Gertrude Kreig; nine reels of moving pictures with fascinating titles, such as: "Steel Goes to Sea," "Diary of a Polish Airman," "Air Screw," and "Army Lays the Rails."

It was announced that the following members of the Association are now serving in the armed forces:

Anderson, Lyle E.
Atencio, A. P.
Bancroft, Alexander Harry
Barker, Francis James
*Beeson, Cyrenus D.
Benson, Elmer H.
Benton, William L.
Brown, Melvin Lee
Bush, John Augustus
Carson, Eugene G.
Cosgrove, Richard G.
Clark, George W.
Collins, T. J.
Dent, Raymond
Ebert, Earl S.
Edelstein, Harold
**Ellis, R. S.
Fulmer, Kenneth C.
Gale, Arthur H.
Goodwin, Eugene K.
Gray, R. C.
Hack, Paul A.
Hall, Robert B.
Hamilton, Ralph Ellis
Hanks, Edward F.
Harkins, Noble J.
Hartline, W. R.
Hawes, Harold W.
Hedger, Harold E.
Hildebrand, Harry
Huey, R. B.
Iffert, William J.
James, Yancey L.
Kambestad, Lowell
Kays, Graydon C.
Kenmir, James E.
Klus, L. L.
Knauer, Herbert F.
Lamb, L. John
Lieberman, Robert H.
Mayer, Robert J.
**McIntosh, James H.
McKinley, Wm. R.
McNemar, John J.
Meyer, Glenn H.
Mossawir, Harve
Oakley, Robert E.
O'Brien, Sherwood Thomas
Plunkett, North H.
Pritchard, Charles A.
Provan, W. King
Pyeatt, Gene Bennet
Ramsey, William A.
Regensberg, David L.
Reinhart, Joseph C.
Roberts, Otis H.
Rosenthal, Arthur G.
Rule, Joe
Scanland, Lloyd
Schwilk, W. P.
Seaton, Chas. M.
Short, Charles M.
Shuler, Herbert D.
Slavin, Stanley W.
**Sorrels, Othel H.
Staples, Clayton
Stebbins, Clarke, Jr.
Stern, Martin, Jr.
Stilson, Philip V.
Stoney, Clyde F.
Swift, Charles F.
Swift, Frank J.
Takayama, Hideo
Thompson, Richard Harry
**Thompson, Wallace C.
Timmons, John D.
Torrey, John D.
Van Natta, Walter S.
Vaughn, Roger, Jr.
Visconti, Jos. M.
Vollum, Edward O.
Van Kories, Major Otto
Wadhams, Homer L.
Walker, George N., II
Whitmore, George B.
Wickes, Clarence Z.
Williams, Milliard R.
Wirsching, Carl B.
Wise, John S.
Wood, Clyde C.
Worstell, Harold W.
Yale, Alfred George
Yocky, Clifford S.

*Deceased.
**Released from service.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Editor
William C. Ambrose

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ATTACK AND DEFENSE

This month's report on the state of affairs at Sacramento must go to press before the final returns of the State legislative session are completed. The legislature is still convening and, as we victory farmers know, rank weeds may spring up in the most unexpected places. But, to shift to the bucolic, our legislative shepherds seem to have beaten off the wolves who would raid the architectural fold.

The attack upon the architectural profession which accompanied Assembly Bill 822 was well prepared, and superficially convincing. Some of the points raised and the answers of our representatives are worth consideration by every architect, for, at one time or another, all of us have an opportunity to counter a blow or foil a slur.

The statement was made, with the backing of statistics, that less than twenty per cent of the structures built in California in a normal year have been anointed with oil from the sacred lamp of architecture. It was manifestly unfair, therefore, so the argument ran, for the eighty per cent who built the buildings to have to comply with a law which requires that the builder write a letter to some one stating that the builder is not an architect. As if they **had** been compelled to write such a letter!

It is unfortunately true that the buildings designed by architects are much in the minority, but the "for sale" or speculative builders are under no legal compulsion to send letters to themselves listing the professions which they can not practice without being licensed. Even those builders who employ clever student draftsmen and, at times, produce creditable products, are under no lash to remind themselves, in writing, that they are without the pale.

The fact of the matter is that buildings designed by architects have won for themselves a premium rating for investment and aesthetic value. The mass builder who would change the law covets the opportunity to take unto himself some of the value that the word "architect" has given to buildings, without increasing either the expense of training himself to be an architect or the expense of hiring an architect who has made that investment in time and money.

If we assume that the proponents of Bill 822 are correct in their figures as to the proportion of work which is controlled by architects, then it is hard to believe that the present law is working any great hardship upon anyone who wants to construct a building. The man who wants to draw plans for his own building is, under the present law, at liberty to do just that. There is no restriction on the sale of such a building. Nor is there a restriction upon the builder who would build for others except that he come clean and state what his principal business is and what sort of training he has had for the proposed venture.

The State has set up certain standards of competence for those who wish to represent themselves to their fellowmen as qualified in more than a

right degree in the designing and supervising of the construction of buildings. It likewise has set up certain standards for those who would like to represent themselves as qualified to contract for the construction of buildings. There is no prohibition against anyone submitting himself for an examination in which he may demonstrate his skill in the field in which he wishes to browse. But the present laws do set up minimum standards which must be met by those who would present themselves to the public as "contractor," "architect," "attorney," "barber," etc., through a long list of professions and businesses.

There is a legal means available for anyone to acquire the right to affix the word "architect" to his name, when he acquires the requisite knowledge and skill. But until he has acquired and passed an examination in which he demonstrates that ability, the law demands that he not sell his services under a false label.

CARL WERNER, ARCHITECT

Carl Werner, architect for many of the Masonic temples throughout Northern and Central California, passed away at his Alameda home May 3, following a lingering illness. He was 68 and had practiced his profession in the Bay Area for more than 35 years.

Mr. Werner was a native of Philadelphia. He came to California 56 years ago and while practicing in San Francisco his home was in Alameda.

In 1898 he graduated from the Massachusetts Institute of Technology after winning a traveling scholarship for outstanding work.

He designed about nine-tenths of the Masonic Temples in California, including the Oakland Scottish Rite building and the Bakersfield, Sacramento and San Francisco Masonic Temples.

He was the architect of the Lowell High School, San Francisco, the Alameda High School, the Sequoia Union High School, and the Alameda West End Branch Library.

Mr. Werner co-operated with four other architects in redesigning the Alameda County Court House and constructed five Christian Science churches in San Francisco, one in Alameda, and the Lake Merritt church.

He also designed the Army and Navy Y.M.C.A. on the Embarcadero in San Francisco and a hospital for the Masonic Home in Decoto.

He was particularly known early in the century for designing Nob Hill residences.

Mr. Werner was a 33rd degree Mason and belonged to the Scottish Rite of Oakland and Lodge No. 166, F. and A. M., in San Francisco.

MORE ARCHITECTS ON THE MOVE

Kenneth Acker has moved from 3305 Wilshire Boulevard, Los Angeles, to 9624 Highland Gorge, Beverly Hills.

John Knox Ballantine, Jr., has moved from 137 Harlan Place, San Francisco, to 1512 La Loma Ave., Berkeley.

A. R. Denke, from Hotel Claridge, 15th and Grove Streets, Oakland, to 1550 Grand Avenue, Oakland.

Willard H. Francis has moved from North Signal, Ojai, California, to 1539 Bentley Street, West Los Angeles.

Charles H. Franklin, from 1244 "O" Street, Fresno, to 1505 Francisco Street, San Francisco.

John A. Grundfor, from 3520 Downing Avenue, Glendale, to 116 North Jackson, same city.

Henry H. Gutterson, from 26 O'Farrell Street, San Francisco, to his residence, 2922 Garber Street, Berkeley.

Wilber C. Harrison, from 979 East Green Street, Pasadena, to 195 South Hudson, Apartment "F," same city.

David H. Horn, from Route 1, Box 409A, Fresno, to 667 Cragmont, Berkeley.

Keplar B. Johnson, from 5347 Golden Gate Avenue, Oakland, to 503 North Laurel Avenue, Los Angeles.

Leon D. Lockwood, from 50 Third Street, San Francisco, to 835 South Oxford Street, Los Angeles.

E. Parks and Irene McFaul, from 206 Moore Building, Santa Ana, to 1118 Halladay, same city.

Theodore H. Pettit, from 6348 Eleanor Avenue, Los Angeles, to 4832 Cammaron, same city.

Virgil Owen Prince, from 1810 West Twelfth Street, Los Angeles, to 1650 West 83rd Street, same city.

Homer C. Rice, from 404 San Fernando Road, Los Angeles, to 3425 Oak Glen Drive, same city.

Robert B. Stacy-Judd, from 6715 Hollywood Boulevard, to 5039 Whitsett, North Hollywood.

Claude A. Steil, from 1735 Vine Street, Berkeley, to 1686 Oxford Street, Berkeley.

Harold G. Stoner, from 1 Sloat Boulevard, San Francisco, to 800 Butterfield Road, San Anselmo.

Charles K. Sumner, from Decker Oak Building, Palo Alto, to 760 University Avenue, same city.

Burnett C. Taylor, from 1166 Victoria Avenue, Los Angeles, to 2575 West Fifth Street, same city.

William H. Taylor, from 1275 Morada Place, Altadena, to W. R. A., Public Works Division, River, Arizona.

Frederick Westcott, from Apartment 202, Mayfair, Spokane, Washington, to 726 Sixth Avenue, same city.

Ralph Wyckoff, from 207 Spring Building, San Jose, to Anglo Bank Building, same city.

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PRODUCERS' COUNCIL PAGE

Northern California Chapter

The National Organization of Manufacturers of Quality Building Materials and Equipment
Affiliated with the AMERICAN INSTITUTE OF ARCHTECTS

HARRY J. LEMOS
He handles the money.

Harry J. Lemos, new treasurer of our local Chapter, enjoys a unique distinction. It began to look like Eastern interlopers had taken over until we discovered Harry. H. J. is a Native Son, spelled with a loud voice. Harry's first job was with the P. G. & E., and he still holds forth with that organization, in the capacity of New Building Representative. When the building "freeze" came, Harry was snowed under by the WPB's many limitation orders, and will continue to be occupied thusly until after the "thaw." Unable to produce a first baseman, former ballplayer Lemos resides in Burlingame with his wife and two daughters. We understand that a super-victory garden has taken over his begonia beds.

P's and Q's covered the gamut run by Allen Turner and Ed Banta in their talks at the April meeting. Masonite popped from guns a la puffed wheat, and the H. H. Robertson Company's "Q" floor for quickness, were the subjects of the informative talks by these two speakers, respectively.

New Member Gerald J. Concannon was introduced by Chapter President Chuck Kraft at our last meeting. Jerry represents the Shower Cabinet Division of the Fiat Metal Manufacturing Company in Northern California. His boss is Gordon C. Hay of Chicago, National Director Laiason Officer.

President Chuck Kraft will attend the annual Producers' Council meeting in Cincinnati May 25-27, concurrently with the annual meeting of the A.I.A. Chuck will take part in several discussions of particular interest to local Chapter and regional members. Preparatory to this trip, Chuck has met with the Executive Committee and Past-Presidents to get the group "opinion" on various questions that will come up, time not permitting a meeting of the entire Chapter for this purpose.

A Square Meal, with a round table discussion for dessert, is on the program for the June 7th meeting, to be held again at the Palace Hotel, Room A, at noon. The discussion will be devoted to a further consideration of the various interesting questions of policy affecting Chapter activities, as debated at the last annual meeting in Cincinnati, Ohio. A good many moons have passed since we've taken the time for this type of meeting. Today's fast moving events command that we get together for a good old-fashioned round table session. We want YOU to be there! And here's hoping that our Architect Laiason Officers from both the A.I.A. Chapter and the State Association will be with us to lend their counsel.

Sound wisdom is contained in the letter sent Chuck Kraft by Theodore Irving Coe, Technical Secretary of the A.I.A. Coe writes:

> "I appreciate your sending me a copy of ARCHITECT AND ENGINEER, which contained much of architectural interest. I was particularly gratified to see the "Producers' Council Page," sponsored by your Chapter of the Council.
>
> "As we look back over the 21 years of the affiliation of The American Institute of Architects and The Producers' Council, we appreciate the wisdom of the early fathers of this Association in recognizing the community of interest of those who produce the materials of construction, and those who weave them into the fabric of completed structures.
>
> "As we celebrate the 21st anniversary of affiliation, we may go forward to face the post-war problems with confidence based on knowledge that in union there is strength, and with the hope that the friendly association between the Institute and the Council may serve as example to encourage more definite integration of all the elements and groups which form the now more or less nebulous construction industry."

Gremlins of a variety of types get blamed for many mysterious mishaps, slip-ups and untoward developments these days. In our March Page, "War-time activities **of their** companies" were discussed by George Quamby and Dan Anzini, not "of other companies," which would amount to traitorism. And we note in our April Page that "Vic" has a new name—Vice Anderson.

THE ARCHITECT—
STILL ADVANCING ON THE WAR FRONTS

INDUSTRIAL WORK KEEPS PACE IN BAY AREA

Industrial improvements labelled "essential" took another upward swing last month in the San Francisco Bay area. Largest of these projects was a contract to Geo. C. Renz of Gilroy to build a dehydrating plant for $100,000.

The Ferry-Morse Seed Company took out a building permit to construct two warehouse buildings on Bayshore Boulevard, San Francisco, for $30,000. Construction will be handled by George Wagner, Inc. No architect employed on the work.

In Oakland the Western Union Company needs more office space and has let a contract to S. Kulchar & Company who will remodel two floors of the building at 424 Thirteenth Street from privately drawn plans.

California Packing Company will build a one story brick addition to its plant on 29th Avenue from plans by its own engineering department. John F. Tulloch, 3428 Ettie Street, Oakland, is the contractor.

The A. Schilling warehouse at 2nd and Folsom Streets, San Francisco, is being remodeled by the Dinwiddie Construction Company, from plans by L. A. Kruse, architect, 251 Kearny Street. The Western Pacific's engineering department has prepared plans for 6 section houses to be built along the company's right-of-way in California, Nevada and Utah.

Fred J. Early, Jr., has the contract to remodel the Metten & Gebhardt tannery at 1775 Egbert Street, San Francisco, at an estimated cost of $20,000. Another remodeling job is under way at 220 Battery Street, San Francisco, for the Dow Chemical Company. The Austin Company of Oakland is doing the work. The Linde Air Products Company is building a one story concrete and brick addition to its 8th Street plant in Berkeley.

Carl F. Gromme, architect of San Rafael, has completed drawings for a Boy Scout building at Second and A Streets, San Rafael. Twenty thousand dollars has been donated by Jacob Albert and construction will go forward as soon as priorities are granted.

U.S. GRANTS PRIORITIES FOR NEEDED SCHOOL BUILDINGS

Increased population in the Bay Area has filled the schools to overflowing and some "essential" building is the result. Franklin & Kump and Associates have let a contract for a two class room building at Shipyard Acres in Napa County for $13,000 and George Sellon in Sacramento has awarded a $54,000 eight class room elementary school building in North Sacramento.

In Monterey County, Architects Robert Stanton and Thomas Mulvin have let contracts for a $70,000 one story frame and stucco school near Fort Ord.

Dragon and Schmidts of Berkeley are busy planning a $30,000 grammar school for the Mira Vista District, near Richmond; a six class room school for the Winters Union High School District; and three grammar school buildings costing $10,000 each for the Washington, Harding and Stege Schools. A large grammar school building of ten rooms is being designed in connection with the Harbor Gate Project, near Stege, by Frederick H. Reimers.

S.F. HOUSING AUTHORITY AWARDS CONTRACTS FOR ADDITIONAL PROJECTS

The Housing Authority, City and County of San Francisco, has received bids for the "Candlestick Cove" project consisting of 994 war apartment units, from plans by Hervey P. Clarke and Francis E. Lloyd, 369 Pine Street, San Francisco. This Hunters' Point Housing Project will run over one million dollars.

Another Hunters' Point project was let during the month to MacDonald & Kahn for $281,182. It consists of seven dormitory buildings. Plans were prepared by E. Geoffrey Bangs and Howard Moise. Contract for the South Gate Project for the San Francisco Housing Authority has been let to the G. W. Williams Company of Burlingame for $275,000. W. P. Day and Harry Michelsen are the architects.

Conversion jobs to relieve the housing congestion in San Francisco are keeping the following architects busy: F. H. Reimers, Vincent Buckley, Harry A. Thomsen, Loy Chamberlain, Malcolm D. Reynolds, Wallace H. Hubbert, Wm. G. Merchant, A. R. Williams, F. H. Meyer, O. A. Deichman, A. A. Cantin, Wm. Mooser, Chas. E. Rogers and Thos. M. Edwards.

A Federal grant has been approved for 1,000 residences and 500 apartments to be built in Oakland and Alameda with private funds.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.
Government work ¾%.

Brickwork—

Common, $43 to $45 per 1000 laid, (according to class of work).

Face, $125 to $150 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.50 lin. ft.

Brick Veneer on frame buildings, $1.10 sq. ft.

Common f.o.b. cars, $16.00 a yard. Cartage extra. $2.50 per 1000.

Face, f.o.b. cars, $55.00 to $80.00 per 1000, carload lots.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.95 per ton at bunker; delivered, $2.50. All quotations less 10% to contractors.

	Bunker	Delivered
Top sand	1.90	$2.50
Concrete mix	1.90	2.45
Crushed rock, ¼ to ¾	1.90	2.50
Crushed rock, ¾ to 1½	1.90	2.50
Roofing gravel	2.25	2.80
River sand	2.25	2.70

SAND—	Bunker	Delivered
River sand	$2.25	$2.70
Lapis (Nos. 2 & 4)	2.85	3.15
Olympia Nos. 1 & 2	2.85	3.10
Del Monte white		84c per sack

Common cement (all brands, paper sacks) carload lots $2.42 per bbl. f.o.b. car; delivered $2.60.

Cash discount on carload lots, 10c a barrel, 10th Prox.

Atlas White, Calaveras White, Medusa White — 1 to 100 sacks, $2.70 sack, warehouse or delivery; $7.65 bbl. carload lots.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches).
Knob and tube average $3.00 per outlet. (Available only for priority work.)

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $6500.00.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	¾x2¼" T&G	⅜x2" T&G	⅜x2" Sq. Ed.
Clr. Otd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place. $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), glazed, 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$45.00 per M
No. 2 common	43.00 per M
Select O. P. Common	48.00 per M
1x4 No. 2 flooring VG	80.00 per M
1x4 No. 3 flooring VG	75.00 per M
1x6 No. 2 flooring VG	90.00 per M
1¼x4 No. 2 flooring	85.00 per M
Slash grain—	
1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	50.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.40 per bdle.

Plywood—Douglas Fir (add cartage)—
"Plyscord" sheathing (unsanded)
¼" 3-ply and 48"x96" ..... $39.75 per M
"Pivwall" (wallboard grade)—
¼" 3-ply 48"x96" ..... $43.70 per M
"Pivform (concrete form grade)—
⅝" 5-ply 48"x96" ..... $117.30 per M
Exterior Plywood Siding—
¼" 5-ply Fir ..... $132.00 per M
Redwood (Rustic) 1"x8" clear heart ..$ 95.00 per M
$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $100.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, $1.08 per gal., in 5 gal. cans, and 95c per gal. in drums.
Raw Linseed Oil—$1.32 gal. in light drums.
Boiled Linseed Oil—$1.35 gal. in drums and $1.48 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12½c
500 lbs. and less than 1 ton	13¼c
Less than 500 lb. lots	13¾c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.70
2 coats, lime mortar hard finish, wood lath	.90
2 coats, hard wall plaster, wood lath	.80
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.60
Ceilings with ¾ hat roll channels metal lath (lathed only)	1.10
Ceilings with ¾ hat roll channels metal lath plastered	2.00
Single partition ¾ channel lath 1 side (lath only)	1.10
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	2.00
4-inch double partition ¾ channel lath 2 sides plastered	3.50
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	3.00
Thermax double partition; 1" channels; 4¼" overall partition width. Plastered both sides	4.00
3 coats over 1" Thermex nailed to one side wood studs or joists	1.50
3 coats over 1" Thermex suscended to one side wood studs with spring sound isolation clip	1.75

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000 (not available)	
2.5-lb. metal lath (dipped) (not available)	.19
2.5-lb. metal lath (galvanized) (not avail.)	.21
3.4-lb. metal lath (dipped) (not available)	.22
3.4-lb. metal lath (galvanized) (not avail.)	.24

¾-inch hat roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply $50.00 per M.
Hydrate Lime, $25.00 ton.

Plasterers Wage Scale	$1.75 per hour
Lathers Wage Scale	1.75 per hour
Hod Carriers Wage Scale	1.50 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.50
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware, $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00. Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)

Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft.
4 x 6 x 12	1.15 sq. ft.
2 x 8 x 16	1.10 sq. ft.
4 x 8 x 16	1.30 sq. ft.

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1943 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

All crafts, except plasterers, are now working 8 hours a day. Plasterers' time is 6 hours.

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	1.87½	1.87½	1.50	1.87½	2.00	2.00	1.87½	1.87½	2.00
BRICKLAYERS' HODCARRIERS	1.40	1.40	1.05	1.40	1.40	1.40	1.40	1.40	1.40
CARPENTERS	1.43	1.43	1.25	1.43	1.43	1.43	1.43	1.43	1.43
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.75	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	.81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	1.75	1.75	1.50	1.75	1.60	1.75	1.75	1.50	1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	1.37½	1.50	1.28-4/7	1.37½	1.25	1.35-5/7	1.42-6/7	1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	1.66-2/3	1.66-2/3	1.75	1.66-2/3	1.75	2.00	2.00	1.75	1.83-1/3
PLASTERERS' HODCARRIERS	1.50	1.45	1.40	1.40	1.18¾	1.35	1.75	1.40	1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53⅛	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	1.50	1.75	1.50	1.75	1.75	1.50	1.75	1.75	1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

COLD CATHODE LIGHTING TRANSFORMER — This type of lighting, using a minimum of critical materials has been successfully tested in many war production plants. Similar to the luminous tubes used in "Neon Signs," Cold Cathode tubes of 20 to 25 mm.

NEW LIGHTING TRANSFORMER

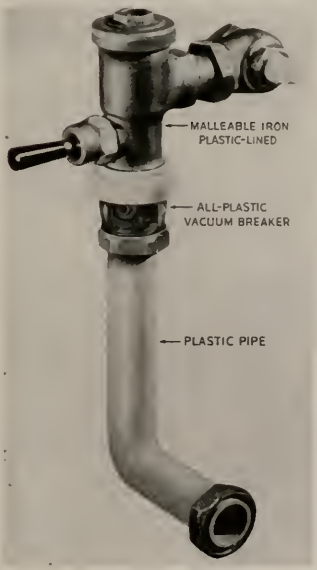
diameter can be used in multiple parallel strips, and curved to follow the contour of a building or production line. The brilliant light can be color-mixed to make inspection work stand out in relief. Announced this month by Acme Electric & Manufacturing Company of Cuba, New York, is a new style Cold Cathode Lighting transformer especially designed for industrial applications.

"THE PROPERTIES OF AMERIPOL D"—A revised edition of its catalog section on this subject, explaining the oil and heat resisting qualities of their synthetic rubber used in many specialized industrial applications, has just been published by The B. F. Goodrich Rubber Company and is now available upon request. The catalog section discusses the properties of Ameripol D and includes a rough guide indicating the services where use of synthetic rubber is practical.

NEW GYPSUM EXTERIOR BOARD —Twenty square feet of durable, weather-proof, rigid and fire-resistant wall in two minutes—is the claim by Certain-teed Products Corp., 120 S. LaSalle St., Chicago, for "Bestwall" Gypsum Exterior Board, a new product designed especially for speedy wartime construction. This new board is surfaced with "Millerized" Asphalt Roofing and comes in large panels, 24 and 48 inches wide and 8, 9 and 10 feet long. Application is made direct to the wall studs.

PUMPCRETE PRACTICE—A new manual and handbook of concrete placement by means of pump and pipeline has just been published by Chain Belt Co., Milwaukee, Wisconsin. This manual is available to contractors, engineers, estimators and operation men. It has 164 magazine size pages and gives full information on every phase of the concrete pump. One chapter is devoted to general Pumpcrete placing methods. The machine, its adaptability, limitations and accessories are described with typical construction lay-outs. Costs are discussed with actual figures and estimates cited in a few actual cases.

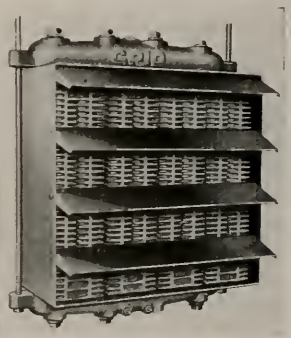
NEW "VICTORY" VALVE — The Sloan Valve Company, Chicago, has redesigned one of their toilet flush valves so that its net copper



NEW SLOAN FLUSH VALVE

content has been reduced from approximately 6 pounds — to less than 4 ounces per valve. Millions of pounds of copper will be saved for products more essential to the war effort. This saving was the result of substituting various plastics and malleable iron for the more critical brass used in the component parts of the peacetime product. According to the manufacturer, the new valve has been thoroughly tested under all simulated conditions and has been found durable beyond all expectations.

CAST IRON UNIT HEATERS — Illustrated is the new "Grid" Cast Iron Heater, introduced as a substitute for aluminum heating sec-



"GRID" UNIT HEATER

tions to cooperate in the war effort. A complete description is contained in a catalog sheet, especially prepared for the architect, now being offered by D. J. Murray Mfg. Co., Wasau, Wisconsin.

NEW ALL-PURPOSE CEMENT—A new all-purpose water-proof type cement, designed for use as an over-all adhesive for cementing resilient floor materials to on-grade concrete floors, has been introduced by the Floor Division of the Armstrong Cork Company, Lancaster, Pa. Claim for the product is that of the elimination of stretching and crawling and it is not necessary to use a primer unless the concrete floor is unusually dirty. Known as Armstrong's No. S-220 Cement, the manufacturer expects to market the product in one and five gallon sizes.

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CLARENCE A. TANTAU, A.I.A.

Clarence A. Tantau, 59, practicing architect in San Francisco for 30 years, died April 20th at the Alta Bates Hospital, Berkeley, following a brief illness. Mr. Tantau was at his office only a few days prior to his death.

Best known for his talent in domestic architecture, Mr. Tantau designed some of the better homes in the San Francisco Bay Region, including houses in Oakland, Berkeley and Piedmont, also on the Monterey Peninsula. He was particularly gifted in Spanish architecture and at the time the Spanish style was most popular in California his homes were outstanding.

Mr. Tantau was associated with Lewis P. Hobart in rebuilding the Hotel Del Monte following the fire which destroyed the main part of the hotel. He designed the Monterey Peninsula Country Club and the Pasatiempo Club in Santa Cruz County as well as many of the beautiful homes in the vicinity of the club. He also designed numerous houses at Pebble Beach and Monterey, including those of Harry Hunt, Francis McComas and Mrs. Chas. Wheeler, Jr. One of his latest houses of interest was the Dr. Cheney residence on the Tunnel Road in Berkeley. The Richard Rheem residence at Orinda also deserves special mention.

Mr. Tantau was critical in his work almost to a fault. His fine understanding and appreciation of good architecture was recognized by the profession which several times honored him for jury duty in important architectural competitions. On one occasion he served with other Northern architects in an "Honor Award" program conducted by the Southern California Chapter, A.I.A., for the best examples of meritorious work by Chapter members.

Mr. Tantau was a member of Northern California Chapter, A.I.A., and the State Association of California Architects.

VAST BUILDING PROGRAM—AFTER THE WAR

The California State Planning Board recently announced that 20 state agencies had submitted plans for 2800 projects representing an outlay of 600 million dollars. The cost of these projects, added to the proposed highway program, would total two billion dollars.

* * *

The National Resources Planning Board in Washington has stated that $7,695,000,000 in Federal funds could be spent after the war on construction and improvement work, for which plans have been completed or could be made if the money is assured.

The projects, the report said, constitute a potentially available "backlog" of work which could be undertaken upon the cessation of hostilities to provide employment while the transition is being made from war goods to civilian goods production.

The backlog was itemized thus:

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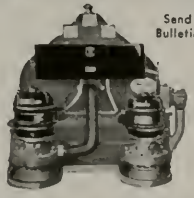

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(all classrooms)

•

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1. Those involved in surveys authorized or already undertaken by various agencies, but "not immediately available for construction," $1,350,000,000.

2. Those proposed by Federal agencies but not yet authorized by Congress and hence unlikely to be backed by detailed plans making them "available for construction in the immediate post-war period unless authorization is forthcoming," $3,378,000,000.

3. "Authorized projects or those requiring only presidential authorization," including some projects already begun which will require additional work after June 30, 1944, $2,966,661,916.

Specific projects were not identified, but the report said they range from small works costing $1000 or less to large and complex projects costing more than $20,000,000.

"There is a large volume of projects costing under $50,000, chiefly relating to land and forest improvement, but also including much river and harbor work," the report said. "Public buildings and roads are important types of projects in the cost range from $50,000 to $100,000.

"Most of the large power, irrigation and flood-control projects are found in the cost range from $1,000,000 to $20,000,000."

Congress has refused thus far to give the NRPB funds to continue its work after next June 30. Unless money is appropriated, the report said, "when the time comes in the post-war era for demobilizing our economy, there will be maddening delays in trying to put men and materials to work on public works projects."

POST-WAR CONSTRUCTION

Post-war public construction is being projected here and there but "taking the country as a whole, very little has been done to translate paper proposals into steel, stone, concrete—and jobs," declared Maj. Gen. Philip B. Fleming, Federal Works Administrator, in a recent dinner talk.

"This is the next step that must be taken," General Fleming told representatives of labor, business, and Government. "Whether it is to be directed by the Federal Government, or by the States and municipalities, is less important than that it should be done, and done now."

VALENCIA GARDENS

Editor, Architect & Engineer:

Your March issue most interesting, especially the account of the Valencia Gardens project in San Francisco. I agree with Sally that some things might be improved, such as location of incinerators (guess at that they are only garbage chutes), and lack of closet space in kitchens.

We have a large project under construction here on Third Street, at Fairfax Avenue.

Los Angeles WM. F. SMITH.

COLUMBIA STEEL'S NEW ROD MILL

Completion and full-time operation of Columbia Steel Company's new continuous rod mill at the Pittsburg, California, plant, marks another finished step in the United States Steel Corporation's $700,000,000 war expansion program. Operation of the mill substantially adds to U. S. Steel's increasing finished steel facilities in the Pacific Coast area.

The new rod mill, the most modern continuous type built for three strand rolling in the United States, produces rods at a great speed. Rods produced from red-hot billets, thirty feet long, weighing six hundred pounds, pass through the last finishing stand to the reels at a rate of 48 miles per hour. At this speed, size No. 5 rod nearly a mile long is delivered to the reels in about a minute from the time the billet leaves the suspended arch-type furnace.

Operation of this high quality production mill, which furnishes rods to the adjacent Columbia Steel wire mill, now humming day and night to fill wartime orders, is continuous from the time the cold billet enters the furnace to the placing of the finished bundle of rods on the shipping platform at the end of the mill.

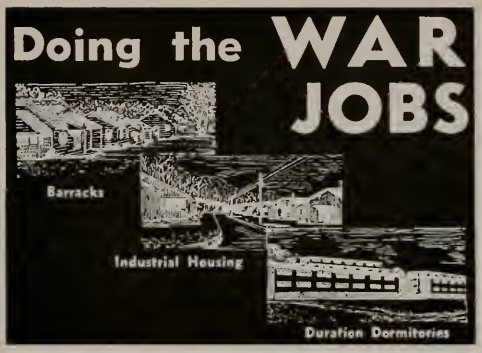
Standard length billets of 30 feet are fed one by one into the upper end of the 33' x 50' furnace, pushing the entire row of billets down the inclined furnace bed. The furnace has an hourly heating capacity of 50 tons of billets, insuring a steady flow. All steel heating operations are automatically controlled from fuel mixture ratios to the temperature of the heated billet.

Billets are heated slowly and uniformly until reaching the proper rolling temperature. Billets are then pushed out, one by one, from the lower end of the furnace into the "bite" of the rolls of the first of nine roughing stands. In all, the mill has 21 stands, divided into nine roughing stands, six intermediate roughers and six finishing stands.

After leaving the final finishing stand, the rod passes through water-cooled connecting pipes to the reels. From the reels, the finished bundle of rods is switched onto an apron conveyor and headed toward the loading platform. At the end of this conveyor, bundles transfer automatically to a hook-carrier conveyor, designed to cool the rods before handling.

Rod bundles are removed from the hook conveyor by manually operated air hoists and placed on stands. Groups of coiled rods are then picked up from the stands by tractors and loaded on specially constructed flat cars for transfer to the Columbia Steel wire mill.

The new rod mill is a complete separate unit from the rest of the rolling mills and is served by its own auxiliary equipment. Seven of the nine main drive motors are housed in a separate motor room, which is air conditioned to remove the heat of the motors, protecting them from dust and other abrasives in the air. A water recirculating system is provided, made up of a settling tank, a clari-floculator tank, cooling tower, and suitable pressure pumps for returning the water to the mill, so that only make up water is required.



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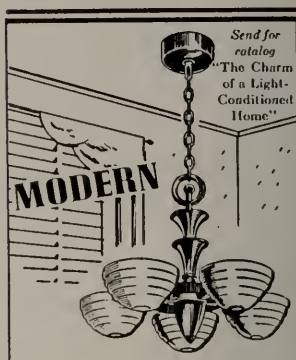

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POST-WAR HOMES

"Build homes," says Bror Dahlberg, president of The Celotex Corporation and chairman of the board of Certain-teed Products Corporation, referring to post-war preparations.

"After the war," he states, "millions of men will be coming home from the armed services, eager to get back into civilian life, civilian jobs and homes instead of barracks or tents.

"Millions of war workers, now living under crowded and unsatisfactory conditions in the areas about the great war factories where they have assembled from all parts of the country, will be scattering into more desirable locations, and they will want homes.

"These returning soldiers and sailors and these war workers, the urgent need for their services ended as the demands of war stop, will want jobs.

"The building industry can provide both homes and jobs."

Mr. Dahlberg declared that two-thirds of the nation's people are now living in quarters that are inadequate, out-of-date, in need of remodeling or complete replacement.

Part of this, he said, is due to the fact that home building has been halted during the war except for the most essential construction, which, by necessity, has been often done on the regimented pattern of housing projects. Remodeling, the installation of improved living facilities, even repairs unless they are imperative, have been virtually impossible.

"In the meantime," he said, "the building industry has made tremendous strides. We have learned more about building houses in the past two years than we learned in the preceding two decades. We have been forced to develop new materials, new methods of construction, because accustomed materials have been impossible to get and old methods of construction have been too slow.

"All this wealth of development will be ready to apply to the building of private homes when the war is over."

New materials and new construction methods, Dahlberg said, have brought with them economy not only of time but of cost.

This will prove a matter of vital importance to the servicemen returning from the wars, he pointed out, because they will need an economical market in homes in order to be able to afford the kind of residences they and their families are entitled to.

"The home of the future will not only be more modern, more attractive and more efficient than the home of the present, but it will cost less," he said.

Mr. Dahlberg visualized more than 1,000,000 new homes a year springing up all over America when the war ends, and sees that building rate continue for at least ten years.

Although he sees the home of the future built from pre-fabricated materials, which are daily proving their worth in war-time construction, he emphatically disapproves regimentation in design or planning.

"A home will always be an individual matter," he said. "What we are building now in the housing projects surrounding our war plants should not be taken as the complete pattern for the future. When you have to build a thousand dwellings in the greatest possible haste, the only way to get them done is to use a standard design.

"But when homes are built individually and with less need of haste, they can be as different as the people who occupy them, even though they are built of the same materials.

"Already the architects and designers are developing hundreds of new designs for private homes, using exactly the same materials that are going into regimented housing projects, but turning out as many different plans as there are designers.

"A 'machine house' need not be a standardized house. It is nothing more nor less than a house in which the essential elements are mass-produced instead of being laboriously put together for each job and can be arranged to suit individual taste."

INCANDESCENT LIGHTING

Incandescent lighting fixtures will be channeled largely into war work, defense housing and other essential civilian uses by a limitation order issued by the War Production Board.

LANDSCAPING
WAR HOUSING PROJECTS

Recent contracts:

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It is estimated also that the order will result in the saving of from 2500 to 3000 tons of ferrous metal this year. This saving will be effected in various ways.

First, the amount of metal permitted in the manufacture of standard utility and industrial incandescent lighting fixtures is reduced about 60 per cent.

Second, the amount of metal permitted in residential type fixtures is reduced about 80 per cent.

Third, certain simplifications and a reduction in the number of sizes and shapes permitted to be produced are ordered.

BRIDGE AWARDS DELAYED

Owing to conditions brought about by the war, the American Institute of Steel Construction has decided that, until the war has ended, no awards will be made in their annual bridge competition.

This competition has been held annually from 1928 to 1942, and awards have been made for the most beautiful large, medium-sized, small, and

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movable bridges constructed during the previous year. The awards have been made by juries selected each year from nationally-known architects and engineers.

As some bridges have been, and will be, built since 1941, the period covered by the last competition held, and the end of the war, it is the intention of the American Institute of Steel Construction to reinstate these awards, and the structures then eligible to compete will include all those steel bridges constructed since the beginning of 1942 and the time of reinstatement of the competition.

TIME TO ADVERTISE

Domestic consumption of Portland cement for 1943 is estimated by the War Production Board at 107,788,000 barrels, a decrease of 39% from the 1942 figure of 177,480,000 barrels.

The estimate should furnish an approximate indication of the probable drop in requirements for sand and gravel used in construction, the Building Materials Division, WPB, points out.

According to the U. S. Bureau of Mines, the domestic cement requirements of Arizona, California and Nevada (estimated) are 14,878,000 barrels, or 13.7% of the national total and a decrease of 26% from 1942, when they were 20,086,000 barrels, or 11.3% of the national total.

AFTER-THE-WAR HOUSING

One hundred per cent of public war housing programmed in the San Francisco-Oakland Metropolitan Bay Area is of temporary construction scheduled for dismantling after the end of the war, according to Langdon Post, regional director of the Federal Public Housing Authority.

Between October 1, 1942 and March 15, 1943, approximately 10,480 units were programmed by the National Housing Agency for construction in San Francisco, Oakland, Alameda, Richmond and Vallejo. These included 8,052 temporary family units and 2,428 temporary dormitory units.

For the same period in the region of California, Arizona and Nevada, 99.4 per cent of public units programmed, 17,062 are temporary family, 5,346 are temporary dormitory, 70 are leased structures and 2,889 are trailer units. The balance, he said, are made up of 146 permanent family dwellings.

U. S. CONSTRUCTION DROPS

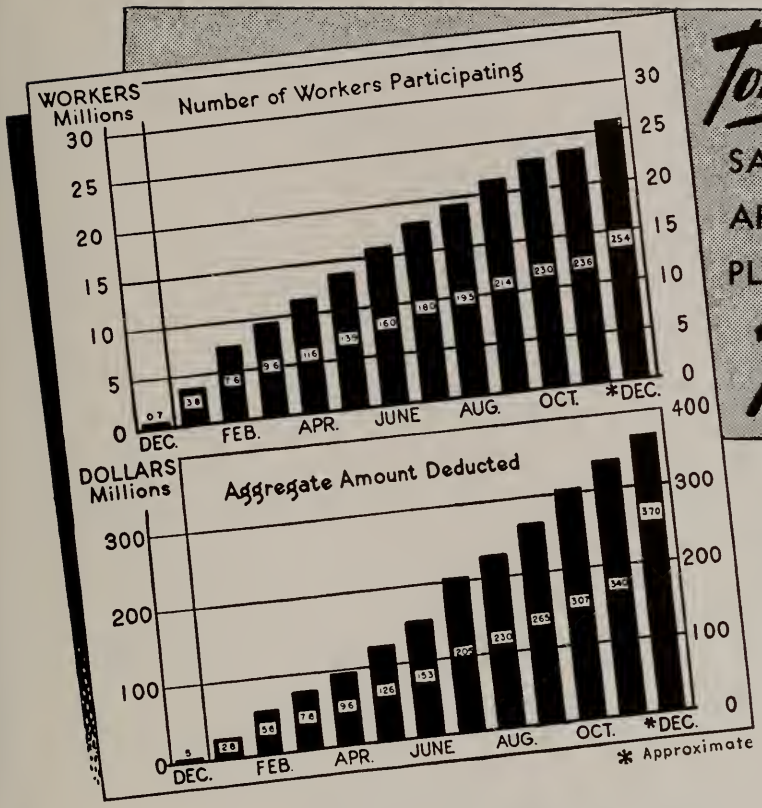
The total volume of construction activity in the United States amounted to $756,000,000 in February, the War Production Board announced in April. This represented a decline of 5% from the January total.

The February total is 8% below the monthly volume of a year ago, and 48% under August, 1942, when construction activity reached a peak of $1,468,000,000. Another decrease of 7% is estimated for March.

War housing and community facilities construction declined 12% in February. The construction of privately-financed housing and of community facilities in places showed declines of 22% and 30%, respectively, while government - financed housing remained at virtually the January level. Increases in all of these categories are estimated for March.

Government - financed factory expansion (construction volume and machinery and equipment deliveries combined) amounted to $562,000,000, a 2% decline from January. Factory construction in February remained very near the January level. A sharp upsurge in construction for the Defense Plant Corporation, particularly in raw material plants, was offset by a continued decline in other types of construction. It is estimated that March will show approximately 17% decrease in factory construction.

The volume of machinery and equipment deliveries declined 4% in February following a slight increase in January. Deliveries are expected to show a March increase as the lag between scheduled and actual deliveries is reduced. Deliveries of machinery and equipment to plants built by the Defense Plant Corporation totalled $205,000,000, or 66% of the total. It is estimated that deliveries in March to this group will remain around $200,000,000.



Tomorrow's SALES CURVES ARE BEING PLOTTED . . . Today

THESE CHARTS SHOW ESTIMATED PARTICIPATION IN PAYROLL SAVINGS PLANS FOR WAR SAVINGS BONDS *(Members of Armed Forces Included Starting August 1942)*

STUDY THEM WITH AN EYE TO THE FUTURE!

There is more to these charts than meets the eye. Not seen, but clearly projected into the future, is the sales curve of tomorrow. Here is the thrilling story of over 25,000,000 American workers who are today voluntarily saving close to FOUR AND A HALF BILLION DOLLARS per year in War Bonds through the Payroll Savings Plan.

Think what this money will buy in the way of guns and tanks and planes for Victory today—*and mountains of brand new consumer goods tomorrow.* Remember, too, that War Bond money grows in value every year it is saved, until at maturity it returns $4 for every $3 invested!

Here indeed is a solid foundation for the peace-time business that will follow victory. At the same time, it is a real tribute to the voluntary American way of meeting emergencies that has seen us through every crisis in our history.

But there is still more to be done. As our armed forces continue to press the attack in all quarters of the globe, as war costs mount, so must the record of our savings keep pace.

Clearly, on charts like these, tomorrow's Victory —*and tomorrow's sales curves*—are being plotted today by 50,000,000 Americans who now hold WAR BONDS.

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save with

War Savings Bonds

This space is a contribution to America's all-out war effort by

THE ARCHITECT AND ENGINEER

Lightning Hose Rack

For Unlined Linen Hose Only

The rack is supported from the valve with Lightning Valve Nipple, allowing the rack to swing the full 180°.

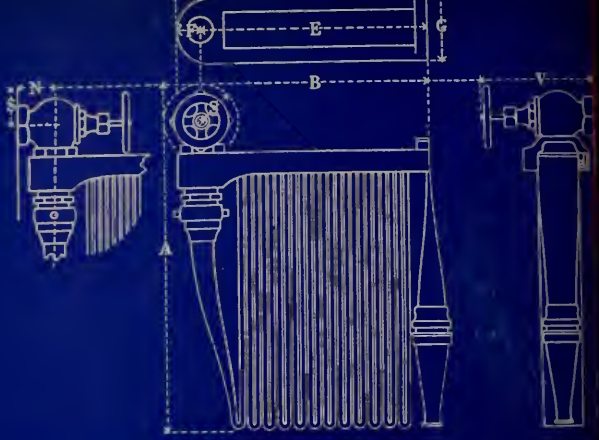
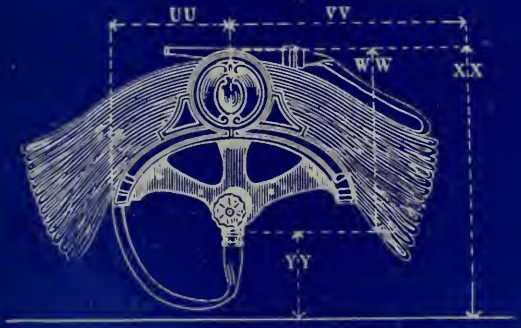


PLATE 3—With Nipple Attachment

Capacity of Hose	25′	25′	25′	50′	50′	50′	75′	75′	75′	100′	100′	100′
Size of Hose and Valve	1½″	2 ″	2½″	1½″	2 ″	2½″	1½″	2 ″	2½″	1½″	2 ″	2½″
A	19 ″	19¾″	21 ″	21 ″	21¾″	23 ″	26 ″	26¾″	28 ″	28¾″	29½″	31 ″
B	13 ″	16½″	17⅞″	15½″	16½″	17⅞″	20 ″	20⅜″	21⅞″	20 ″	20⅝″	21⅞″
E	10¾″	13¾″	14⅝″	13⅝″	13¾″	14⅝″	17¾″	17½″	18⅝″	17¾″	17½″	18⅝″
F	1⅜″	1⅜″	2⅛″	1⅜″	1⅜″	2⅛″	1⅜″	1⅜″	2⅛″	1⅜″	1⅜″	2⅛″
G	4 ″	4⅜″	5⅝″	4⅛″	4⅝″	5⅝″	4¼″	4⅝″	5⅝″	4¼″	4⅛″	5⅝″
N	2⅛″	2¾″	2⅝″	2⅛″	2½″	2⅝″	2⅛″	2½″	2⅝″	2⅛″	2½″	2⅝″
S	2½″	3¾″	3¼″	2¾″	2½″	3¼″	2½″	3¾″	3¼″	2¼″	2¾″	3¼″
Valve 1 closed	7¾″	8¾″	10½″	7⅞″	8¾″	10½″	7¾″	8¾″	10½″	7¾″	8¾″	10½″
Valve 2 opened	8¾″	9½″	12¼″	8¾″	9½″	12¼″	8¾″	9½″	12¼″	8¾″	9½″	12¼″
Weight—lbs	15½	22½	31¼	19½	28	37½	25	33½	46½	28½	39	53



Lightning Theatre Rack

Plate 5½ is a very attractive saddle rack, suitable for either linen hose or small quantities of Cotton Rubber Lined Hose.

DIMENSIONS PLATE 5½

WITH LINEN HOSE

Capacity		UU	VV	WW	XX	YY	Recess Dimension		Depth
Feet	Size						Width	Height	
50′ to 100′	1½″	11½″	19″	17¼″	23¼″	6″	40″	33″	8″
50′ to 100′	2 ″	11½″	19″	17¼″	23¼″	6″	40″	33″	9″
50′ to 100′	2½″	11½″	19″	17¼″	25¼″	8″	40″	35″	11″

WITH COTTON RUBBER-LINED HOSE

50′	1½″	11½″	20″	17¼″	23¼″	6″	42″	36″	8″
*75′ or 100′	1½″	11½″	20″	17¼″	23¼″	6″	42″	36″	8″
50′	2 ″	11¼″	20″	17¼″	23¼″	6″	42″	36″	9″
*75′ or 100′	2 ″	11¼″	20″	17¼″	23¼″	6″	42″	36″	9″
50′	2½″	11¼″	20″	17¼″	25¼″	8″	42″	38″	11″
*75′ or 100′	2½″	11¼″	20″	17¼″	25¼″	8″	42″	38″	11″

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ARCHITECT AND ENGINEER

JUNE, 1943

ARRETT & HILP ARE BUILDING 26 OF THESE REINFORCED CONCRETE CARGO SHIPS FOR UNCLE SAM

1 Robert McCarthy, head of the Robert McCarthy Company, General Contractors of San Francisco.

2 Construction view of 4,000 apartment units in Richmond, Calif.

3. A few of the finished 4,000 apartment units

4 Part of 500 apartment units in Alameda.

5. Finished buildings of a 1,800-apartment-unit job in Richmond.

A few views of

$11,000,000

worth of current

WAR-HOUSING

The largest single contract awarded by the Government for war apartments went to the Robert McCarthy Company of San Francisco for 4,000 apartment units and 74 utility buildings in Richmond.

This brings **recent** war-housing awarded to McCarthy up to $11,000,000 and the last of this current work is about finished.

Other jobs not shown here and finished previously, total many millions more!

And only 18 years ago the Robert McCarthy Company was awarded its first contract.

The Robert McCarthy Company **built** its reputation for good workmanship, speed and low cost. Its fine organization was ready when the Government wanted war-housing built in a hurry.

Robert McCarthy Company

General Contractors

San Francisco **Washington, D. C.**

ARCHITECT AND ENGINEER

JUNE, 1943

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NEXT MONTH

Few builders in the United States have handled with greater success such huge commissions of war housing projects as Robert McCarthy, before the War, just another small town builder in the San Francisco Bay area. McCarthy's record of house building for Uncle Sam reads like fiction. Architect and Engineer readers will be amazed at his record which accounts for the successful completion of many thousand housing units with an expenditure of millions of dollars of Government money.

Another July feature will illustrate a proposed new development on the East Bay waterfront embodying the construction of a trans-Pacific air base, largest of its kind in the country. The project is already well advanced on paper in the office of Donald R. Warren Company, engineers, San Francisco, Oakland and Los Angeles. Financial backing is said to be assured. The air port is one of several important post-war developments originating in the Donald Warren office.

Since the California State Legislature has abolished the California State Planning Board, the recently published outline of its plans, etc., by Richard J. Neutra, chairman, would seem to be without particular importance at the moment. By act of the Sacramento solons the Board will cease to function after August 1st of the current year. Our readers will find details of the proposed new set-up on Page 36, this issue.

MODEL No. 9H—Pedestal type unit with two enameled iron bowls, equipped with self-closing valves. Fountains can be installed to face same direction.

MODEL No. 6G2—Pedestal type with single vitreous china fountain bowl with protecting cowl. Anti-squirt, angle stream drinking fountain head and self-closing stream control valve.

MODEL No. 8—Wall type with enameled iron drinking fountain bowl. Has shielded anti-squirt angle stream drinking fountain head and self-closing valve.

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RUNNING FIRE — by MARK DANIELS

• *THE POST WAR HOUSE*

Professor A. Petrarch Bean was in a gay mood as he tripped up his front steps—and over the electric door-closer that operated the garage door. The last trip, and his gay mood, threw him off balance so that he pushed the two-way burglar alarm instead of the secret door-operator. The "Modern Burglar Alarm" was so installed that it could be released by the Post War Home owner on retiring, leaving a button on the knob that would operate the alarm at the slightest touch. Instantly the house echoed with the clangor of bells and gongs. But the door remained closed, for the key would not work while the alarm was on. The professor rang the bell and pounded on the door but the sound was lost in the noise of the burglar alarm. As the professor put his fingers in his ears and turned to go, the door opened and he heard his wife shout, "Good heavens, Pet," (Pet was short for his middle name, not a term of endearment), "I thought you were burglars; you were so late and I must have thrown the light switch into the alarm system—or something," she said as she fumbled for the invisible door of the plastic switchboard. Meanwhile the Professor groped along the hall for the coat closet. "Turn on one of the lights, dear," he called. A sudden rumbling as of furniture sliding for home was climaxed by a shout from the professor. "Lights! for God sake turn on the lights. Something hit me." "I must have pressed the wrong button," his wife cried. "I've forgotten which is the light button."

"It's the fifth down the third row. The one you've got is setting the dining room. Get those lights: I want to know what hit me. Hurry! It hit me again"!

The light flashed on, all the lights in the house, barely in time for the professor to dodge an approaching figure.

"Turn off the Robot-Butler before he gets me again," he cried. "Seventh button on the left."

Professor Bean turned into the bathroom to bathe his skinned nose and stood in perplexity before a kaleidoscopic array of plastic knobs, buttons and levers; he wasn't sure of the transparent bathtub so he stood still. "I'd trade a Ph.D. and LL.D. for a plumber's union card any time," he muttered. "Here goes."

Memorizing had never come easy to the Prof. but finally he put his hands in the iridescent bowl, leaned over to place his bruised nose nearer the bowl, and stepped on a floor lever. A sprout of steam enveloped his face and he quickly shifted his foot to a button, but too violently, for the stopper popped up and out of the bowl.

"Mary, Mary," he howled, "come and get me some water. Now this collection of gadgets has hit me—and on the nose too . . . "

"You'd better come into the dining room, dear" (dear was the term of endearment, not Pet), "I know there's a bowl of water there, and bring a dry, warm towel off the chrome rack."

The Prof. reached for a towel—and howled again.

"For heaven's sake, Mary, come and get me. My left hand is burned to a crisp."

"I forgot to warn you, Pet, dear, that Willie had been playing in the bathroom and probably got the pipes and levers mixed up." Reaching through the bathroom door she took the professor by the arm and led him to the dining room.

As the door opened on the Telurium hinges the professor forgot his nose and his blistered hand. "What in Hell!" he shouted.

"My God!" cried his wife.

A half inch of water covered the floor. It dripped from the sideboard, from the chairs. Rain was falling lightly through the open roof. "I'm afraid," she said, "that Willie forgot to slide the roof back after he pulled the open lever. It was so bright and clear at dinner time," she added weakly, timidly.

* * * * *

Sitting on the edge of the chaise longue (the beds were collapsible, disappearing plastic). Mrs. Bean bathed her husband's nose in a stainless steel basin.

"Pet, darling," she half pleaded, "couldn't we take our vacation high in the mountains in a log cabin with a little wood stove, a tin wash basin and a mountain brook?"

• *"DECORATING THE HOME"*

Despite the congenital antagonism of most architects for the views of interior decorators, I find Miss Ethel Lewis's book on "Decorating the Home" does not rub my architectural fur the wrong way. Perhaps this is because to begin with she states that the book is not intended to teach anyone to be an interior decorator or designer. This is a real step forward in these days of pedantic authorship, when most writers are telling everyone just how to do everything.

The chapters on architecture are simply presented with pictorial examples of easily identified types of houses. The author suggests that the exterior of the house should serve as a style guide as to what to expect to find in the interior—a point missed by many architects. She is apparently not a stickler for period style uniformity but rather stresses the necessity of scale harmony and the importance of textures of backgrounds in relation to furniture and other component parts on interior design.

There are sketches of certain interior architectural details which might aid the layman as well as the architect to more comprehensive understanding of the architectural lingo.

For the rest the chapters on furniture styles, textiles, wall and floor coverings, seem complete and authentic. There are chapters on color, on art elements and even a small chapter on the importance of flower arrangement in well planned interiors.

At any rate here is one Lewis without an ulterior motive.

• *THE BRUTES!*

The paper this morning carried this caption, "Unions Charge Intimidation by Red Cross."

We have been expecting this. Girl Goon Squads attacking defenseless stevedores along the waterfront and Bounding Billowing, Bandage Bundlers hurling helpless hod-carriers to the ground and tieing them into knots. It makes one shudder to think of such brutality.

Something must be done about these heinous practices.

CONTEMPORARY PAINTING IN CANADA ON DISPLAY AT S. F. ART MUSEUM

Twenty years ago indignant citizens sent scorching letters to the editors of Toronto and Montreal papers because, they said, certain painters were representing the landscape of Canada in a way that would menace the tourist trade. Instead of depicting the cultivated rural country of Southern Ontario, or the homely feudal strip-farms along the rivershores of Quebec, these artists were painting the rugged, weather-bitten lands of the unsettled north. This trespass against the wilderness was considered a trespass against good taste, not to say bad business.

That it proved to be good business is beside the point. But the fact that thousands of people have chosen since to spend their vacations in this wilderness has made general the attraction which a handful of painters felt first.

This wilderness, on and about what geologists call the pre-Cambrian shield, extends through Muskoka and Georgian Bay and along the north shore of Lake Superior. Visible in these parts is one of the oldest surface areas of the earth. Huge rock strata, stretched, twisted and bent by primeval forces, project from the waters to make hundreds of islands, to enclose scores of lakes. Wind torn pines anchor themselves to the rocks with roots like grappling hooks.

HAND OF A BUDDHA ***China, 6th Century***

This hand from a colossal Buddha, both monumental and subtle, is carved in close grained, dark grey limestone now covered with a lovely patina. At de Young Golden Gate Park Museum.

This country, ugly to those who enjoy only the sedate landscapes of England, inspired the city-bred artists of Canada. Calling themselves the Group of Seven, these men created the first distinctive school of Canadian painting. That was about a generation ago. Now there are signs of a shift of scene. Asked to comment on the state of Canadian art, twenty-nine year old Tom Wood recently said: "I believe there are some healthy trends taking place, particularly amongst the younger artists who have discarded the influence of the Group of Seven."

* * *

The current exhibition of Contemporary Painting in Canada at the San Francisco Museum of Art contains works of artists a generation apart. Three members of the Group of Seven are represented, so is Tom Wood. In all, thirty-eight artists were selected for this showing by Bartlett H. Hayes of the Addison Gallery of American Art. To my knowledge, this is the first time that an American show of Canadian art has been selected by an American. Perhaps for this reason the show is quite different from its few predecessors in this country. For one thing, not a single dramatic landscape of the stepped-up-in-scale variety is present. The three artists in the list who liked to produce that sort of thing are here represented by a moderate-sized canvas, two oil sketches, and two drawings. Such, according to Bartlett Hayes, is the glory that was the Group of Seven. Another painter of the same generation, who was not so much as a distant cousin of the celebrated Group, is represented by one small oil and five water-colors. This is David Milne, a name already familiar to those who recall the lists of the famous Armory Show at New York in 1913. Milne spent much of his life in the Adirondacks and one of the six works on view was painted there. The other five were done much more recently in his native province of Ontario. These show a remarkable change of attitude. From landscapes of a fresh, breath-taking simplicity, he has turned to a relatively complicated world of light fantasy.

* * *

Another feature of the Hayes selection is the proportion devoted to the painters of French Canada. French Canadian artists have never taken a large share of the stage of Canadian art in general. This is partly because the proportion of trained artists of French descent is small. Mr. Hayes extended the limits by admitting the work of the folk painters of Quebec. Their works show the flair for gay pattern and naive design found in the hooked rugs by the same peasants. Some sophisticated French Canadian painters are now turning to this art of their simpler folk for inspiration, others prefer the traditions of pre-war Paris, and one or two share the ways of their non-French compatriots.

* * *

These ways are various but they are familiar

enough to followers of American art. "Today," writes A. Y. Jackson, "the younger artists are going American. I can see no definitely national characteristics as are found in Mexican art . . . most of us live under conditions so similar to Americans, I don't feel that our art can be very different . . . "

Nevertheless, the art of the Group of Seven was different, and mixed though it may have become, the strain of that art is evident in the work of many of the younger painters. As much as anything else, this influence distinguishes contemporary Canadian art from ours.

DOUGLAS MacAGY.

FAMOUS FRENCH ARTIST'S PAINTINGS SHOWN AT SAN FRANCISCO MUSEUM

An exhibition of Jean Hélion's work would be welcome at any time, but the occasion of his present show at the San Francisco Museum of Art is something of a celebration. When war was declared Hélion returned from America to fight for his native France. Now he is back in this country, free after a long confinement in the Nazi prison camp from which he escaped.

At thirty, after a period of five years devoted more to painting than to his first interests in architecture and engineering, Hélion was an acknowledged leader of the younger artists of Paris. At thirty-nine, he is called "the leading French painter of the 'youngest' generation" by James Johnson Sweeney.

An admirer of Poussin and Seurat, Hélion works towards the exact formal order which distinguishes the works of these men. His paintings have a clarity that comes of intellect, and a precision that comes only of a highly trained sensibility.

Feininger's Recent Work

Those who remember the summer which Lyonel Feininger spent at Mills College will welcome the show of his latest watercolors now on view at the San Francisco Museum of Art.

Art of Our Neighbors

Accompanying the sizable exhibition of Canadian Painting, described above by Mr. MacAgy, is a show of works from Latin American countries. These pictures, for the most part owned by local collectors and the Museum, formed three exhibitions which have toured the United States throughout the past year. In the words of Dr. Grace L. McCann Morley, Director of the Museum, "Such an exhibition as this can serve usefully in making better known to us our neighbors of the Western Hemisphere as their artists report upon them."

Both Dr. Morley and Douglas MacAgy, Curator of the Museum, have lectured separately on the inclusive exhibition of the Art of Our Neighbors; on Sunday afternoon, June 27, they will give a joint talk on Art in the Americas and a otur of the show.

ABSTRACT DESIGN **Jean Helion**
At the San Francisco Museum of Art.

SOME GOOD EXHIBITIONS AT THE LEGION OF HONOR THIS MONTH

Most important exhibitions the current month at the California Palace of the Legion of Honor, San Francisco, are the following:

20th Century Portraiture Exhibition: Now till July 12.—This exhibition, circulated by the Museum of Modern Art, brings to San Francisco the most comprehensive collection of portraits by the finest artists of America and Europe. Eakins, Sargent, Renoir, Bonnard, Sloan, Glackens, Picasso, Brook, Derain, Matisse, Rousseau and many others are represented. To quote the Museum of Modern Art, "Portraiture as considered here means any representation of an individual known to the artist personally in which the appearance and character of that individual have been an important factor in his mind as he worked."

Charlotte Meyer Sculpture: to June 27.—A West Coast artist, living and working at present in Santa Barbara. Approximately 10 pieces.

Artists for Victory War Posters: Now till July 18.—These posters—approximately 100—were selected from the National War Poster Competition, which was sponsored by the Artists for Victory for the purpose of obtaining inspirational and fight-

ing posters for the nation. It was based on eight themes carefully selected from the President's first War Message to Congress of January 6, 1942. These posters were first shown at the Museum of Modern Art in New York City and subsequently were exhibited for a month at the National Gallery of Art in Washington, where they were seen by 180,000 people. Eight designs were purchased by the Government, and a total of thirteen have been acquired by it for reproduction and national distribution.

Early American and European Flasks and Decanters. This exhibit is from the collection of Vice Admiral and Mrs. R. P. McCullough, and is being shown now at the California Palace of the Legion of Honor, San Francisco.

The famous George Washington, Scroll and Violin, Union and Clasped Hands, and many others are represented in this interesting and historically important exhibition.

THE WENDELL WILLKIE COLLECTION, "ART OF FIGHTING CHINA" AT DE YOUNG'S

Battles, bombed cities, Flying Tigers in action, a Chinese mother fleeing from an attacking airplane with a baby strapped to her shoulders and a little boy, hand clutched in hers, running frantically beside here—these and many other too-familiar scenes of war-torn China comprise an exhibition, "Art of Fighting China," now showing at the De Young Museum. The exhibit, composed of scrolls, oil paintings, watercolors and woodcuts, is currently being circulated by the Museum of Modern Art in New York.

This is the show, in its entirety, which Wendell Willkie brought back with him from China on his round-the-world hop last fall. It is the work of contemporary Chinese artists, entrusted to Mr. Willkie by the All China Fine Arts Association, a branch of the Central Political Institute in Chungking of which Generalissimo Chiang Kai-shek is the Director. The selection of works, made by Dr. Chiang Tao-fan, head of the Fine Arts Association, gives greater argument—if such argument were needed —to the cause of Fighting China.

"ART FOR FUN" FEATURES SUMMER SHOWINGS AT DE YOUNG'S

Art for Fun: This exhibit represents the work done since December by members of the museum art classes—the Saturday sessions and the "Sunday in the Park" meetings. From the youngest of these amateurs, 4 and 5 years, to adults who have now joined the Saturday afternoon group, the walls are covered with drawings in pencil and charcoal, pastels, watercolors and a few oils whose subject matter ranges from portrait and landscape to the political cartoon and caricature (an influence, no doubt, of the Soviet posters which hung on the same walls a few months back). Side by side are displayed the efforts of future sculptors and potters—the results of the special clay modeling section. The works are abundant and some show a wonderful freedom and originality which so often is lost by the more sophisticated artist.

WINNER OF NATIONAL COMPETITION FOR SPRINGFIELD LIBRARY MURAL

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MURAL DESIGN AND DETAIL **By Sante Graziani**

library mural competition was produced by Private Sante Graziani, now of Camp Joseph J. Robinson, Arkansas. The only competition of its kind, privately sponsored, in the United States, nearly 100 entries were received from all parts of the United States as well as some from Canada and Mexico.

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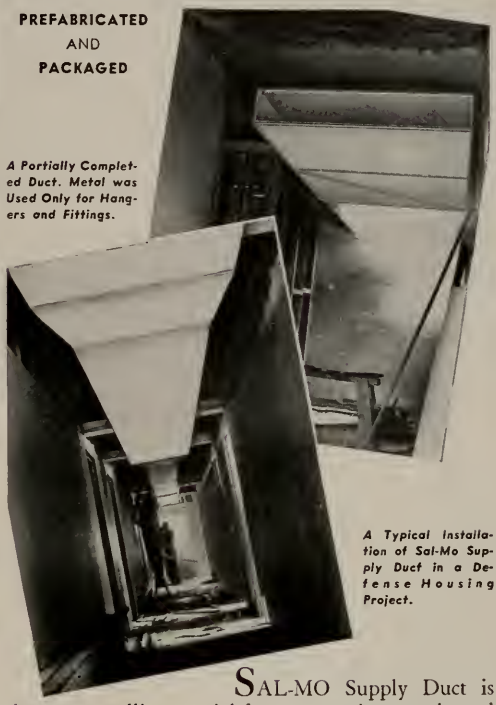

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STRADDLE-TYPE TABLE FOR THE NAVY

Mario Corbett, Architect, and J. Albert Paquette, S. E., design an improved fold-up mess table.

Editor Architect and Engineer:

I am enclosing a photograph of a barracks mess table which was designed by J. Albert Paquette, structural engineer, and myself.

At first glance this may not seem an exciting project in the face of whole architectural schemes, but it is a solution to one very difficult problem in wartime planning. I have been working on Navy and Coast Guard projects since July of last year, and one of our major difficulties—very often a major bottleneck—has been the timing in a large mess hall. In a 3,000 man mess hall, for instance, men march in in shifts during a two hour period, and 14 minutes is the average time allowed for one man to enter, be served, find a seat, eat, march out, and dispose of garbage. The advantages of the straddle-type table over the old standard bench-type can at once be seen, since seating and spacing become automatic.

Mr. Paquette and I do not claim to have originated the idea of the straddle-type table, but we have applied and vastly improved it. I have yet to see a 12 foot table of light construction, straddle or bench type, where there are less than 6 points of contact to the floor. Our design has only four points of contact, and is steadier than any other tested to date. Since it is necessary to mop and scrub the mess hall after each mess period, this lighter, four-legged table has a distinct advantage over the old centipede-type, which was, moreover, considerably heavier.

These tables, the first of 450 ordered by the Navy, were turned out in standard table heights of 30" and standard seating heights of 18". Each seat is carried by a hanger from a 2" x 6" facia which runs the full length of the table, and these hangers serve as posts combined with the leg at the leg supports. Stiffness is obtained by means of braces, struts, stretchers and plywood. Other features of this table are the split rings (borrowed from wooden truss design), especially economic sizes of members in Oregon pine, and the light hardware. Both the 12′ and the 8′ table measure only 4′ 6" in width, which is quite a consideration where space is always a factor.

The final improvement is that the table may be packaged for shipment. The top is pressed in one section, the hangers fold down on the sea struts, and the legs and bracing are removable. In the event you should find this material suitable for publication, it should be noted that patents have been applied for.

Sincerely yours,
MARIO CORBETT, Architect.

El Nido Ranch, Hayward,
May 26, 1943.

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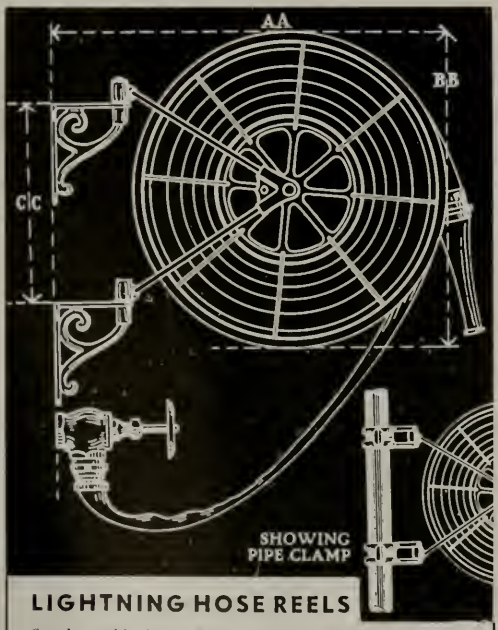

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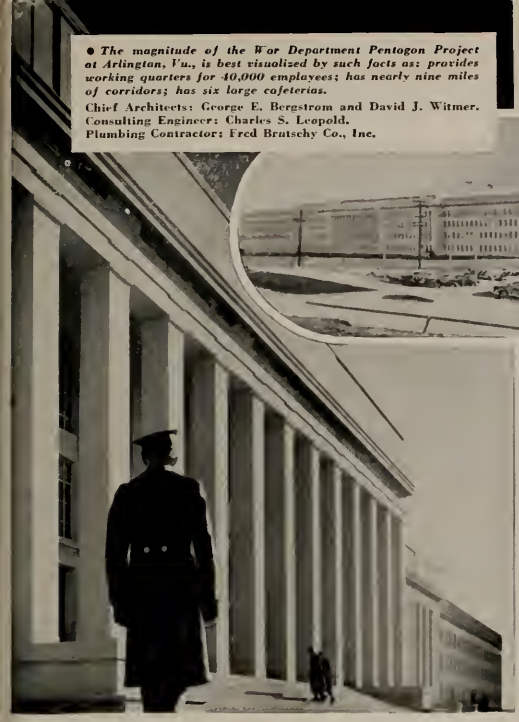

● The magnitude of the War Department Pentagon Project at Arlington, Va., is best visualized by such facts as: provides working quarters for 40,000 employees; has nearly nine miles of corridors; has six large cafeterias.

Chief Architects: George E. Bergstrom and David J. Witmer.
Consulting Engineer: Charles S. Leopold.
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● 3,004 Watrous Majestic Flush Valves are installed in the Pentagon Building as shown in these two views.

Watrous Flush Valves

SAFETY AND BETTER LIVING

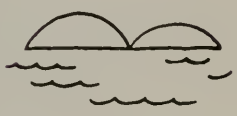
a city can mushroom

City design is a kind of art. Only instead of a single creator there are hundreds or thousands or millions.It takes generations. It is always in process. A city can mushroom, decay, spread, shrink..... It can glow in spots and sometimes achieve beauty by accident. Occasionally the design is conscious as in classic Athens or modern Paris.

Pericles knew

That only happens when enough of the "citizen-designers" know what it is all about. Pericles knew and so did many Athenians of his time. Hausmann knew but he could not have made Paris the memorable city that it is if other Frenchmen had not also been fired by a passionate love of their city.

hills and waters



San Francisco is young - hardly a century. Yet there glows here the possibility of repeating the "miracle" of conscious city design. Citizens find excitement and inspiration in this galaxy of hills set in sparkling waters. There is another reason. Gifted architects here are beginning to think in terms, not alone of houses, but of streets and whole neighborhoods, of what would make a city liveable, likeable, integrated.

no pillared porticoes

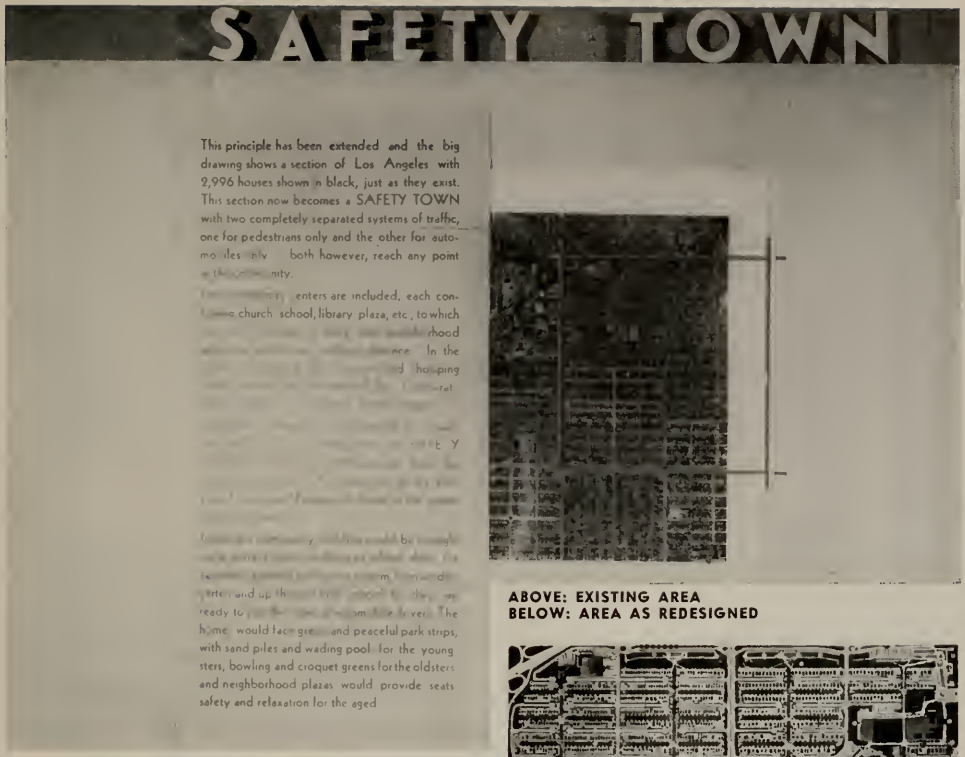
It won't be pillared porticoes we will build when we grow truly conscious of our civic art. The false gods have perished. No triumphant arches or broad avenues for marching feet will be slashed from our slums as they were in Paris. Warfare has changed. With the automobile and the airplane, the dive-bomber will determine the new design.

Like plastic ribbons the free-ways will have to cut through as well as loop the town, breaking it up into island neighborhoods self-contained and well planned..... Industries must have their stark but aesthetic areas to function efficiently... Stores must be conveniently grouped..... broader parking space..... Fewer and wider streets and more play areas where streets once were.

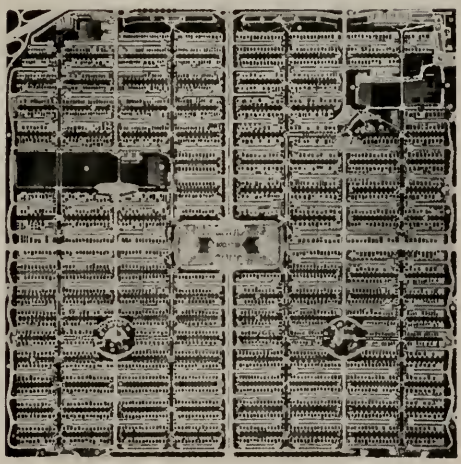
masses of stone

The "blighted" areas,those decayed and sordid sections from which we turn our eyes when we pass through and which, losing value to their owners through neglect are also a loss to the city because they cost more in services of light, sewerage, police...than they bring back in taxes, these blighted areas will have to be turned down, many blocks at a time. The streets will have to be replanned, open space retained and then rebuilt by private capital. As Giedion has said, cities are more than masses of stone. Man must be joined to the soil again through placid greenery and quiet tree-lined courts. The suburbs must flourish in the town.

Courtesy San Francisco Museum of Art


SAFETY TOWN
This principle has been extended and the big drawing shows a section of Los Angeles with 2,996 houses shown in black, just as they exist. This section now becomes a SAFETY TOWN with two completely separated systems of traffic, one for pedestrians only and the other for automobiles only — both however, reach any point in the community.
centers are included, each containing church, school, library plaza, etc., to which
hood
nce. In the
housing
ready to
The home would face green and peaceful park strips, with sand piles and wading pools for the youngsters, bowling and croquet greens for the oldsters and neighborhood plazas would provide seats safety and relaxation for the aged

ABOVE: EXISTING AREA
BELOW: AREA AS REDESIGNED



POSSIBILITIES FOR POST-WAR S. F.

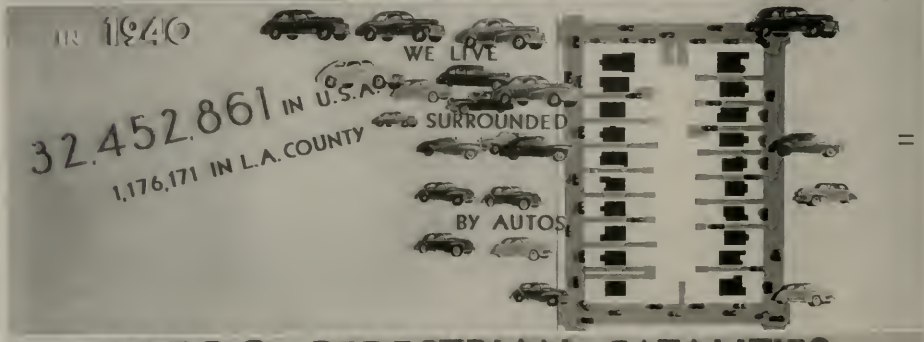
by BARRY DUNLOP

"Safety and Better Living" was the title of an exhibit shown recently at the San Francisco Museum of Art under the sponsorship of the San Francisco Housing and Planning Association. Subtitle, "Possibilities for Post-War San Francisco." It was a modest and straightforward little show depending chiefly for its interest on the ideas inherent in the designs shown rather than on the bag of tricks of modern exhibit showmanship. The purpose of the exhibit, as the subtitle indicated, was to explore certain planning and design possibilities for post-war San Francisco. It was actually a combination of two exhibits, one consisting of the studies by Carl B. Troedssen of the University of Southern California for the replanning of a specific area in Los Angeles, the other consisting of a number of designs made by students at the University of California in Berkeley under the direction of Howard Moise of the faculty of Architecture. While Mr. Troedssen's suggested scheme for neighborhood rehabilitation is based on a Los Angeles example, it could be applied to similar areas in any American city and hence contains valuable suggestions for San Francisco planners. The two problems studied by Mr. Moise's students had to do specifically with San Francisco.

Among the planners, business men and economists who are giving thought to the problems of the post-war period urban redevelopment has come to be regarded as one of the most promising means of stimulating business and

THE CAUSE

THE INTRODUCTION OF FAST AUTOMOBILES INTO CITIES THAT ARE BUILT ALONG PEDESTRIAN EVOLVED PLANS.



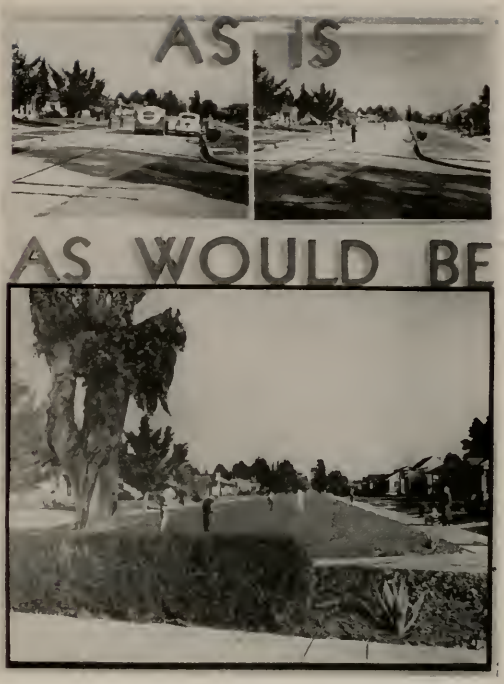
A FATAL INTERMINGLING OF AUTOMOBILE AND PEDESTRIAN

employment after the war's end. So much thought and study have been given to the idea that certain basic concepts as to patterns and procedure are now quite generally accepted.[1]

There is for instance general agreement that if such rehabilitation projects are to be worthwhile they should comprise an area large enough to insure stability for the improved property values. If possible an area large enough to constitute a "neighborhood,"[2] which is generally defined as the area served by one elementary school. It is also generally agreed that a street pattern designed to discourage through traffic within the area is essential, and that adequate open space for recreation easily accessible to all parts of the area must be provided. Provision for shopping centers, schools, community buildings, churches, etc., should of course be made.

"SAFETOWN"

"Safetown" is the name which Mr. Troedssen has given to his study, and while his designs make use of all the currently accepted concepts of neighborhood planning, interior park areas, community centers, etc., it is the problem of eliminating the hazard created by the automobile on which he places the chief emphasis—as well he may with Los Angeles the object of his solicitude! Citing the fact that during the half-century since the first gasoline operated automobile appeared in the United States the total number of cars has increased to over 32 million, all of which cities designed only for slow moving traffic have had to absorb, he says, "This wholesale introduction of a fast and potentially dangerous means of transportation



into cities in which no provision had ever been made for any such innovation resulted in the scenes which today have become so familiar—a fatal intermingling of automobile and pedestrian, with children having to cross dangerous thoroughfares going to and from school, with homes that are never free from the din and hazard of traffic, tens of thousands killed and maimed in the United States yearly.

"This conflict, which has been ever-increasing, will become ever more felt, with greater loss of life, greater numbers of injured, and ever increasing nervous strain upon the entire population." It will become ever more felt, that is, unless something is done "to restore some of the safety to life, the peace-of-mind and possibility for relaxation, which were a part of city life before the automobile was thrust into pedestrian-evolved city layouts."[3]

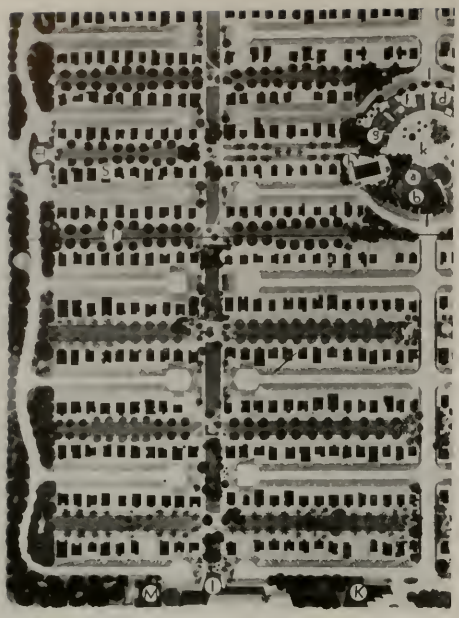
The something which Mr. Troedssen's study proposes to do is to eliminate all fast-moving traffic from an area comprising some 130 blocks, relegating it to fast-moving traffic

1 At least five more or less specific proposals for urban redevelopment have been published within the last two years. These are (a) The Federal Housing Administration's "A Handbook on Urban Redevelopment for Cities in the United States"; (b) "A Proposal for Rebuilding Blighted City Areas" and "Outline for a Legislative Program to Rebuild Our Cities" by the Urban Land Institute (an offshoot of the National Association of Real Estate Boards), Washington, D. C.; (c) "Urban Redevelopment and Housing," by Alvin H. Hansen and Guy Greer, National Planning Association, Washington, D. C.; (d) "Better Cities," by Charles Ascher, National Resources Planning Board, Washington, D. C.; and (e) "Report of the Committee on Urban Redevelopment," in the proceedings of the National Conference on Planning, 1942, published by the American Society of Planning Officials.

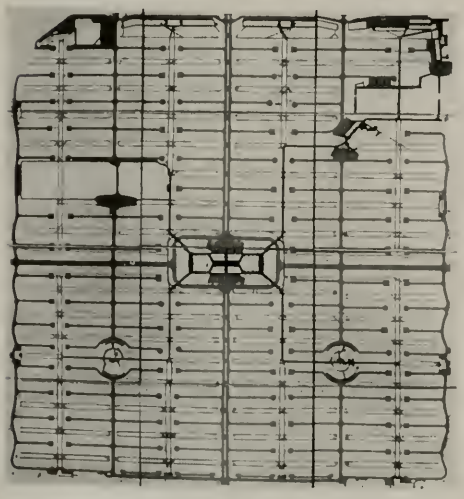
Permissive legislation under which urban redevelopment projects may be carried out actually exists in New York, Illinois, Wisconsin, and Kentucky. Michigan has a statute which applies to Detroit only. In California a bill of doubtful merit (AB 1979) passed both houses during the recent legislative session and is now awaiting the Governor's signature or veto. In Congress a well-conceived bill which would set up a federal urban redevelopment agency has been introduced by Senator Thomas of Utah. The Urban Land Institute will unquestionably introduce a bill which has reached the stage of its fourth tentative draft, and no doubt there will be numerous others.

2 For a definition of "neighborhood" and a discussion of the basic concepts of neighborhood rehabilitation see: "Regional Survey of New York and Its Environs," Vol. VII, Monograph One, by Clarence Arthur Perry, or Mr. Perry's Book, "Housing for the Machine Age," New York, Russell Sage Foundation, 1939.

3 "The City of Tomorrow" article by Carl B. Troedssen, Western Building, Vol. 21, No. 6, June, 1942.



Detail of Mr. Troedssen's plan of "Safetown," showing new dead-end streets, old streets converted to park areas, part of one of the community centers, and the insuloting strip of park around the perimeter. Garages have been turned around and immediotely adjoin the new access streets.



Traffic design of "Safetown." Broader greyish lines indicate motor ways; narrow dark lines show course of pedestian travel. Note that all pedestrian ways lead to the main shopping center in the middle of the plan.

streets or super highways on the perimeter and creating wide buffer or sound-insulating strips of planting between the highways and the nearest houses. Within the area each house would be accessible to automobiles on one side while the other side would adjoin a communal space through which pedestrian ways would connect all parts of the development—schools, playgrounds, shopping centers—without ever encountering an automobile.

ENGLISH PROTOTYPE

Admirable as this idea may be it is not a new one nor original with Mr. Troedssen. It is a commonplace in English town planning and may be seen in actual operation in this country in Radburn, New Jersey, the community designed by Henry Wright and Clarence S. Stein in the early thirties to demonstrate the merits of the "superblock" with an interior park area and a perimeter pierced by cul-de-sac streets. The novelty in Mr. Troedssen's scheme lies not in the separation of motor from foot traffic but in the fact that he achieves this much-to-be-desired result while preserving all—or nearly all—of the existing houses and without altering except at a few points the prevailing gridiron pattern of the area comprised in the study. In short he recognizes the fact that in our American cities there are many areas drastically in need of replanning in which the existing houses are still structurally sound and dear to their owners; that one of the obstacles to be overcome in promoting rehabilitation schemes which may prove unsurmountable is the reluctance of many home owners to give up their cherished houses; and that buried underground in our cities lie utilities — water mains, gas mains, sewers—which would be costly to replace if a wholly different street pattern necessitated replacing them. In demonstrating that the main objectives of a replanning operation can be achieved without abandoning the basic street pattern, or the existing houses, utilities, and schools, Mr. Troedssen has made a valuable contribution to the science of planning. It should be noted too that the several community centers which he has introduced are charmingly designed and suggest the possibility of pleasant outdoor as well as indoor community life.

When we consider some of the details of the scheme, however, we are not wholly convinced. One notes, for instance, that a child, in order to get from some of the houses to the school without crossing a motor street, would have to follow a long and circuitous route; and, remembering that a straight line is the shortest distance between two points, we are led to suspect that for all the planning many a child would take the short way and dodge traffic as of yore. We also question the extravagance of tearing out all the paving and curbs of the existing streets and the building of new approach streets between the backs of the houses. Mr. Troedssen does this in order that the houses may **front** on a green area and in order to eliminate the waste of land entailed in a long driveway leading from the curb to a garage at the rear of the lot. Well, we hold no brief for long driveways or for garages at the rear. Modern planning places the garage at the front of the house near the street and reserves the space at the rear for a garden toward which the important rooms of the house are oriented. But this, of course, is beside the point. The houses in question are not modern in plan and could not be made so without costly alteration. Their living rooms are at the front and are going to stay there and that presumably is why Mr. Troedssen proposes to transform the present street into a green mall. The garages are at the back of the lot and are going to stay there, and that is why he proposes to turn them around and enter them from a newly constructed street built on land taken from each owner's garden. But if I know my Los Angeles and the intensive development of the backyards behind little houses of the sort with which we are dealing the average owner would not be compensated for the loss of fifteen or twenty feet across the back of his lot by the salvage of the relatively useless space taken up by the driveway along the side of the house. Nor would this loss be compensated for by the creation of a **public** greensward in front of the living room windows which would almost certainly function as a continuous playground. A green space adjoining a living room to be of value must be private. No doubt I am a curmudgeon but I actually prefer the sound of automobiles to the shrill cries of playing children.

Then there is the question of cost. One of the criticisms of Mr. Troedssen's plan heard at the exhibit is that it is conceived in a vacuum—that there is no indication of how the various improvements would be paid for. Even though the utilities are preserved, the building of the new paved streets, the removal of paving from the old ones, the acquisition of land for the perimeter planting strips, the community centers, etc., and the construction of overpasses or underpasses for foot traffic would be considerable. It would presumably have to be assessed —at least in part—against the property in the reconstructed area. In addition each property owner would be faced with the expense of moving or replacing his garage, removing the driveway, and alterating the house—or at the very least its walks and porches—in order to make it function properly with visitors arriving from the rear. It seems very doubtful that the average American home-owner would see enough merit in Mr. Troedssen's scheme to persuade him to shoulder the expense involved.

U. C. EXHIBIT

In the exhibit from the School of Architecture at the University of California one of the two problems was undertaken, Mr. Moise informs us, at the request of Mr. L. Deming Tilton, Director of the San Francisco City Planning Commission. This problem was concerned with the study of a typical block of twenty-five foot lots such as have been developed in enormous quantities by Doelger and other speculative builders. Its purpose was not only to demonstrate that a better house in approximately this price range could be designed, but to make a study in which the street itself would be considered as something to design, in which an attempt would be made to achieve in our modern architectural idiom something comparable to the harmony and dignity of the eighteenth century streets and squares in London[4] in place of the "sales-ap-

[4] The London streets and squares so justly praised by Siegfried Giedion in "Space, Time, and Architecture" (Part VII); Cambridge, The Harvard University Press.

BLOCK OF TWENTY-FIVE FOOT ROW HOUSES FOR SUNSET DISTRICT, SAN FRANCISCO DESIGNED BY REEVE GOULD, UNIVERSITY OF CALIFORNIA
Street itself considered as an entity.

BLOCK OF TWENTY-FIVE FOOT HOUSES DESIGNED BY REEVE GOULD
Living rooms in upper houses have view of ocean, lower houses direct contact between living room and garden.

peal" false-fronts which jitter down the blocks in the Sunset Division.

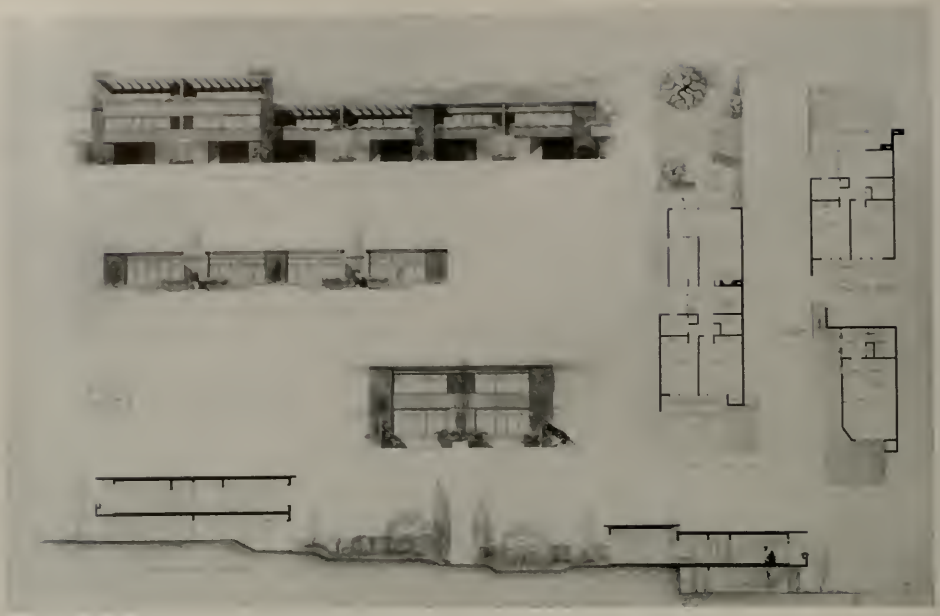
The program for the problem recognizes the fact that, considered individually as machines-to-live-in, the Doelger houses have considerable merit. They are comfortable and convenient and their planning often displays intelligence in such matters as the placing of the important rooms on the rear when a view of the ocean is obtainable in that direction.

Where they fall so shockingly short is in the contrast between the lack of even the meagrest attempt at design in their plainly visible backs and the elaborate striving for individuality in their street facades, each phoney little stylized front reverting to honest siding where the eye turns the corner of the party wall. And, with all this effort at differentiation, and with the total absence of any sense of unity in the design of the block as a whole, achieving only what Mr. William W. Wurster has aptly described as "the deadly monotony of slight variation."

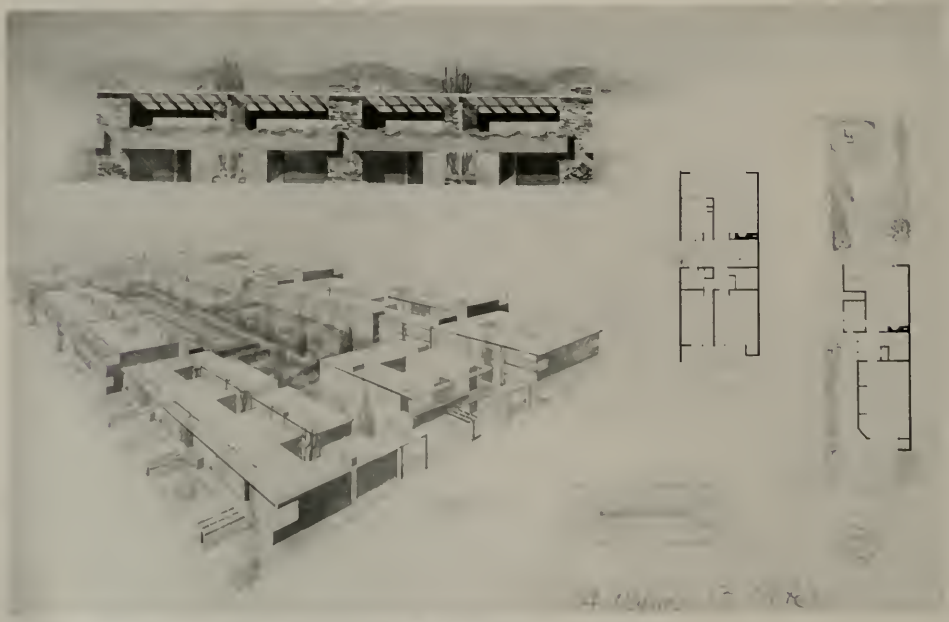
This feeling of integration in block design and of harmony and repose in the street as an entity has certainly been achieved in the designs of the University of California students, especially in the admirably straightforward solution of the problem by Mr. Reeve Gould. Whether or not this unity of design and the consequent anonymity of the individual house would prove a handicap in selling is a question which only a tryout of the idea could answer. We believe that even that part of the public which lives in Doelger houses might be found responsive to good design, though Mr. Doelger would probably be timid about giving the proposition a trial. Let us hope that one of these days some hardier entrepreneur will have courage to make the experiment.

REMODELLING

The other problem in this exhibit was an exploration of the possibilities inherent in a suggestion, which is by no means new, that pleasant living accommodations could be achieved in blighted areas developed with row houses by tearing out every third house to create open space and remodelling the remaining houses.



DESIGN OF A BLOCK OF TWENTY-FIVE FOOT ROW HOUSES IN THE SUNSET DISTRICT, SAN FRANCISCO, BY MARVIN LANGE, UNIVERSITY OF CALIFORNIA



IN MR. LANGE'S DESIGN A SMALL COMMUNAL PROMENADE WITH SEATS AND PLANTING IS INTRODUCED IN THE MIDDLE OF THE BLOCK

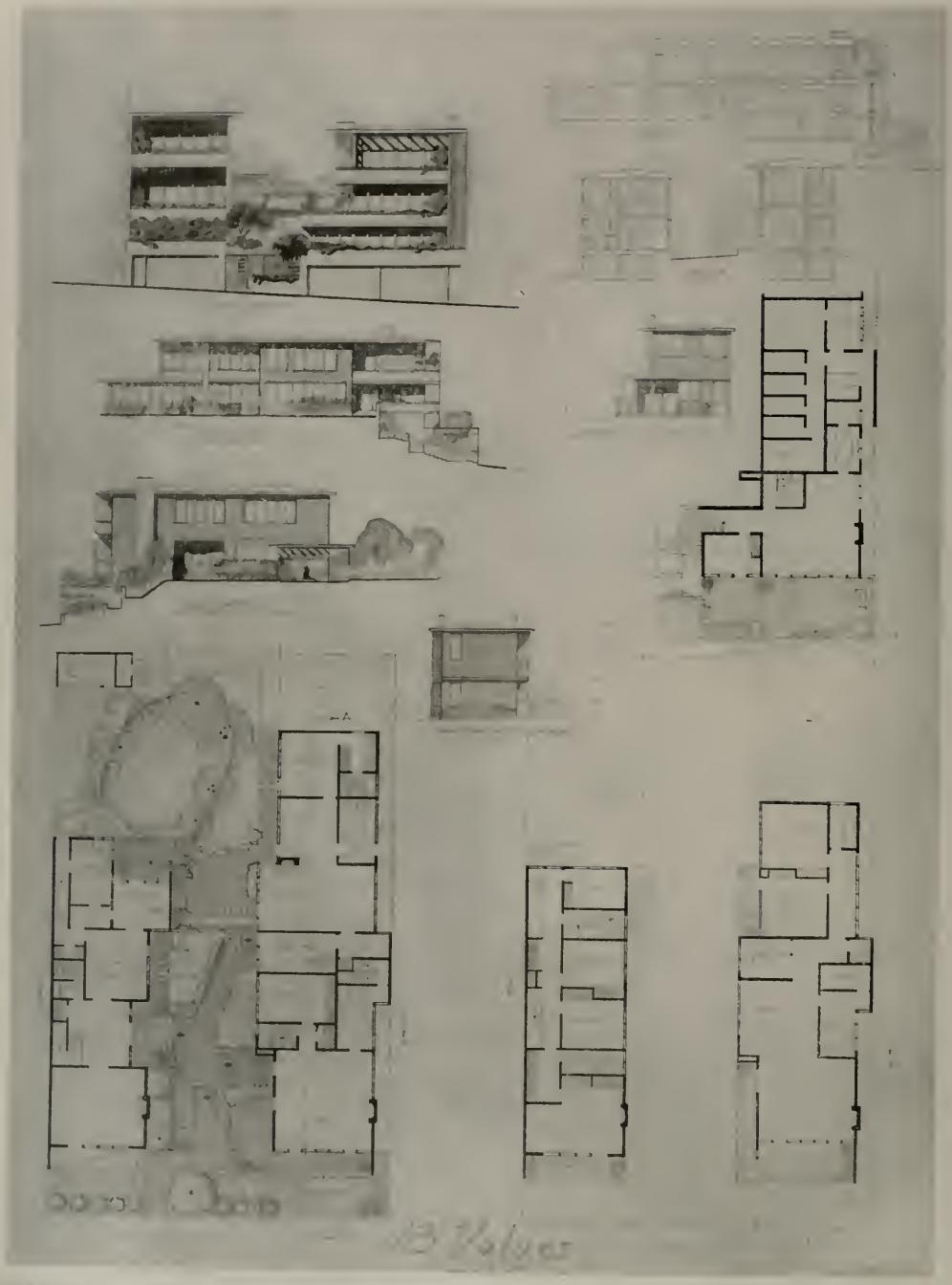
REMODELLING TWO OLD HOUSES
DESIGN BY ANDREW ANDERSON, UNIVERSITY OF CALIFORNIA
Ample provision is made for outdoor living.

In this instance Mr. Moise informs us the twenty-five foot row house of wood construction and late Victorian design, which is so characteristic of the Hayes Valley and other old sections of San Francisco, was made the subject of the study.

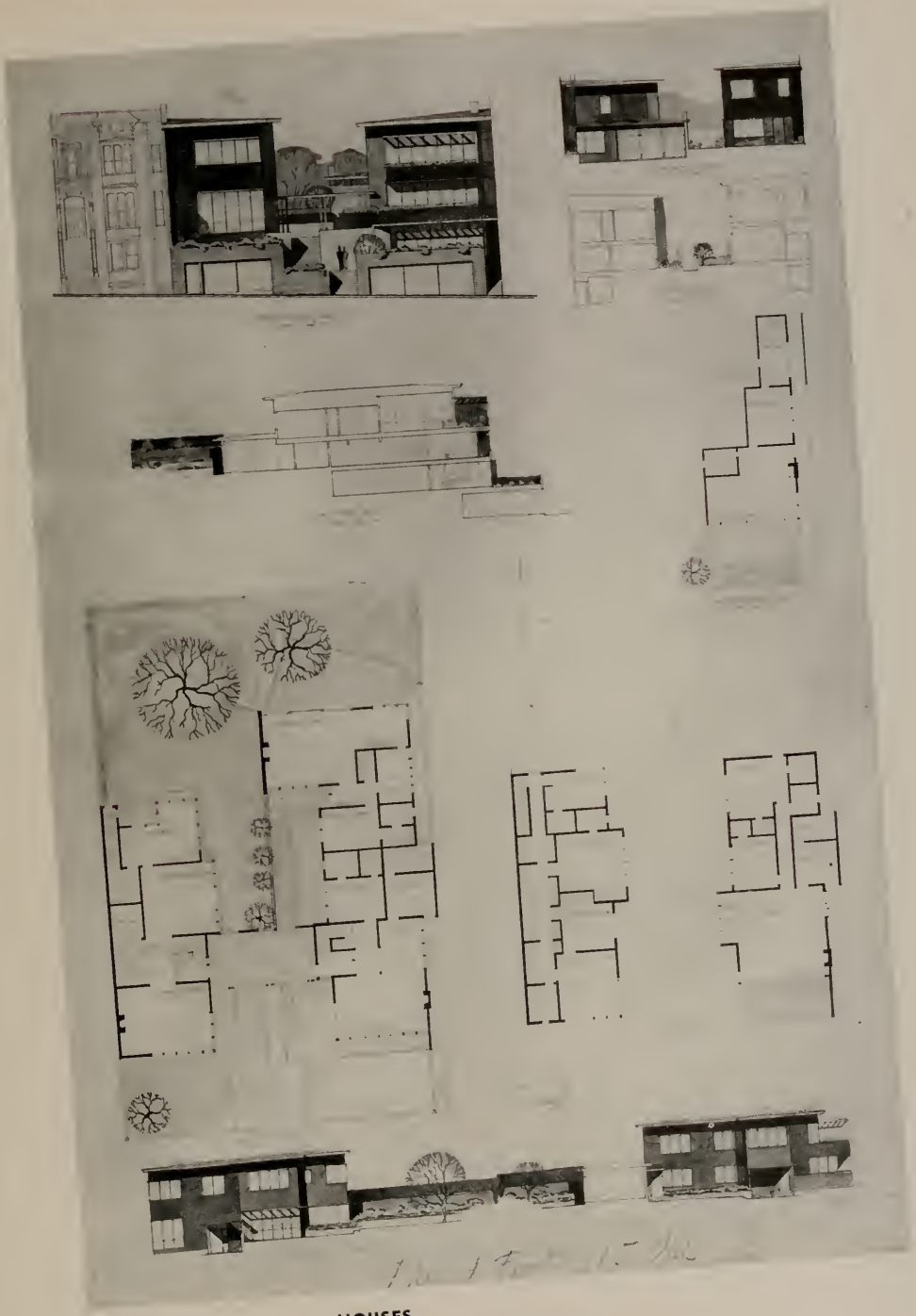
At the outset of the problem several of these old houses were visited by the students and the one which seemed most typical was measured and used as the starting point for the study. Characteristically the one selected had a sloping lot and a first floor high enough above the street to permit the introduction of a garage on the sidewalk level. The program stipulated that the study should comprise the two houses flanking one of the newly-created open spaces, one to remain in single family use, the other to be remodeled into three or more apartments. The provision of outdoor living space for each apartment was made mandatory.

In all four of the solutions of the problem shown the designers have succeeded admirably in providing the outdoor living spaces which the program stressed and in giving these outdoor spaces a high degree of privacy. Notable in this respect is the design by Andrew Anderson in which the blank north wall of the living room and terrace in the upper apartment prevents the occupants of this apartment from overlooking the garden of the apartment below. All of the designs show a predilection for the open type of plan now so much in vogue and for the feeling of intimate contact between indoor and outdoor spaces. In general the plans suggest pleasantly shaped and well proportioned rooms and the exteriors are attractive, inviting, and commendably simple and straightforward. There is no doubt that living accommodations of this sort would find ready takers.

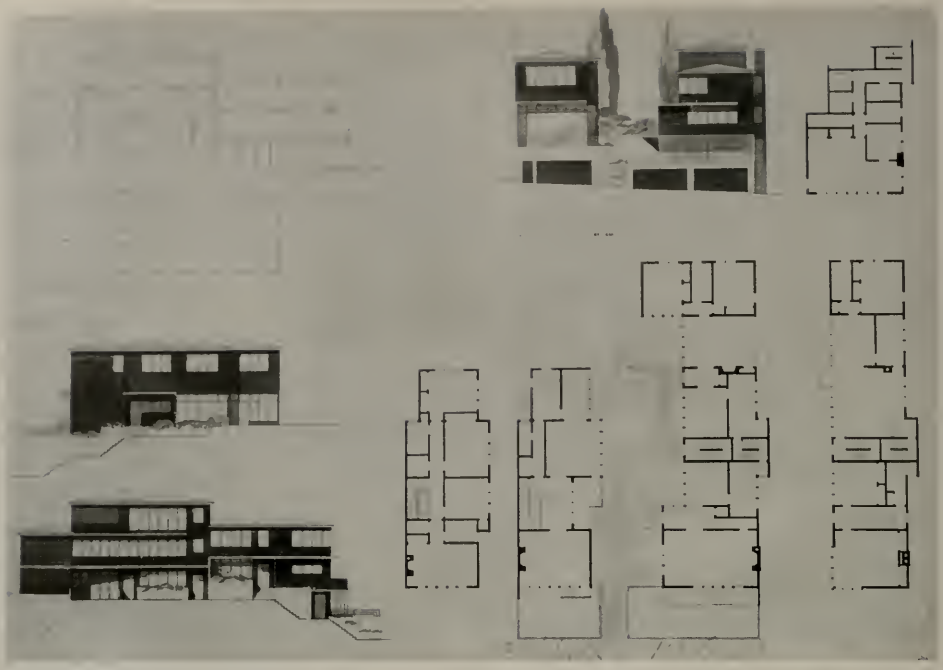
Whether or not such extensive remodellings for the rental market could be done at a profit is, however, another question; there was no indication that the economic equation had been solved. In answer to this question Mr. Moise commented as follows: "Our object in this problem (and no doubt Mr. Troedssen's object in his study) was to suggest ideas and stimulate interest rather than to offer blue-



REMODELLING TWO OLD HOUSES
DESIGN BY CLAUDIA WATKINS, UNIVERSITY OF CALIFORNIA
One house for single family use, one converted into apartments.



REMODELLING TWO OLD HOUSES
DESIGN BY DAVID LEAF, UNIVERSITY OF CALIFORNIA
Character of existing houses indicated at left.



REMODELLING TWO OLD HOUSES
DESIGN BY RICHARD W. JACKSON, UNIVERSITY OF CALIFORNIA
Interlocking garden units.

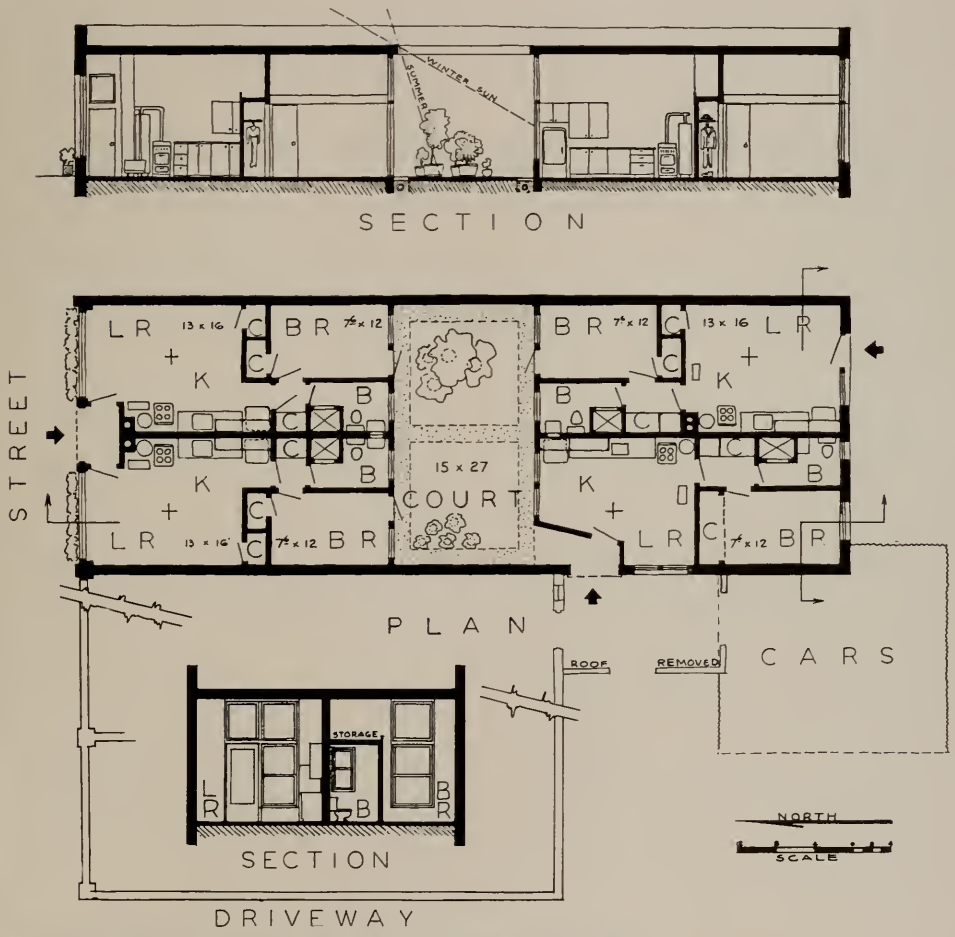
prints and specifications for specific use. Needless to say had the problems been undertaken by graduate students, with ample time for research, the results could have been somewhat more realistic. Actually the students undertaking them were only fourth year undergraduates and the time given to each of the problems was short — approximately four weeks."

That both the Troedssen studies and the designs by the University students were stimulating and provocative was indicated by the attendance at the show and by the careful scrutiny which many of the visitors gave to the drawings. It is to be hoped that exhibits of this sort, which have to do with the well-being and future development of cities, will find a regular place in the Museum's subsequent offerings.

IMAGINATION IN A CONVERSION PROJECT

Something new has come to pass under the architects' sun—the conversion, sponsored by the HOLC and welcomed by almost everybody except the kind of tax-payer who worries about the possibility that an early end to the war will leave him holding the bill for unwanted dwelling space. Whether conversions are a happy development or not, they are here, and a challenge.

Each conversion job presents special difficulties, but among the hardest, and surely the least inspiring, must be the alteration of stores into living quarters. Interesting solutions to that problem have been evolved by Frederick L. Langhorst in his design for four apartment units out of the store at 1603 Tacoma Street, Berkeley, a building owned by Benjamin T. Hansen. Some elements of Mr. Langhorst's design apply



PLAN AND SECTIONS FOR CONVERTING STORE INTO FOUR APARTMENT UNITS
BERKELEY, CALIFORNIA
Frederick L. Langhorst, Architect

only to store-conversions; others suggest unusual ways of saving space and gaining livability at small cost in any kind of emergency housing.

In this case, the plan had to provide for reconversion back to the store's original use, a requirement that puts up a set of limitations both structural and financial. The HOLC adds the cost of reconversion to the cost of present alterations. If too high, the project is considered impractical.

The store is 27 ft. x 78 ft., with frontages on Tacoma Street and a rear alley; no openings on the sides of the building, but access to one side, via a driveway, towards the rear. To get light and air into the center of the building is the most conspicuous problem here, as in the case of most store-conversions. The solution here is a large airy court the size of which is determined by winter sun angles to permit year round sunlight. Several 30-ft. joists will be removed (and saved) and the roof knocked out to allow for this open court, 15 ft. x 27 ft., separating the two front from the two rear apartments. The court allows secondary access to the front apartments from the shed at the back of the building where cars will be parked. Bedroom windows facing on the court will be topped with large transoms to take greatest possible advantage of light and air. The concrete floor will be cut up around the edges of the court to allow for drainage. Tubbed planting is planned.

The 13-ft. ceilings, and the limited floor space, made it important to break up individual apartments as little as possible. In each will be one fairly large room, about 13 ft. x 16 ft., one small room, 7½ ft. x 12 ft., and the bath. With some courage the architect put the kitchen facilities in the living room and designated the small room as a bedroom. The bedroom will gain an illusion of extra size from the fact that it borrows space over the bathroom, the wall separating it from the bath being only 7½ ft. high. There is a ceiling over the bath, boarded. The area above it can be used for storage if desired.

The idea of combining kitchen and living room, rather than bedroom and living room, is new but has some points in its favor. Why not let the woman of the household be surrounded by her family and perhaps friends as she cooks? Also, food is beautiful; rationing has taught that to people who didn't know it before. Many housewives probably would like to be able to screen off or curtain off cooking arrangements after the dishes are washed and put away—or especially if they cannot be washed immediately—and no provision for screening or curtaining has been made in this conversion. But the philosophy behind the kitchen-living room combination is interesting.

Nothing will be done to existing concrete floors. The concrete side walls will be given brush coats of cold water paint; the new partitions will have integral-colored plaster surfaces. Since it would be impossible to match these two kinds of pigments, no effort will be made to do so. They will be in different but harmonious colors.

The large store windows in the front will be left but if possible within the program will be trimmed with low window-boxes containing hedge-type planting. The present front door will be removed, and a small entry-way built, from which doors to the two front apartments will open. The entrance of one rear apartment will be from the rear yard, which connects by a walk with the street behind; from the other the entrance will be at the side.

Each apartment will be furnished with stove and electric refrigerator or ice box; also with console heater and hot water heater.

The cost of this conversion is estimated at slightly less than $10,000, or about $2,500 a unit, including cost of demolition and reconversion, contractor's fee, contingency fee, and the architect's fee.

POTENTIAL MARKET FOR POST-WAR HOUSING

The following material is taken from a post-war housing survey of the nation recently made among architects, builders and building supply houses by "Parents Magazine," 52 Vanderbilt Avenue, New York, and Hobart Building, San Francisco:

QUESTION—What price range will offer the largest postwar housing market? Why?

4.0%	said	up to $ 3,000
12.8%	said	up to 4,000
19.2%	said	up to 5,000
24.0%	said	up to 6,000
12.0%	said	up to 7,000
14.4%	said	up to 8,000
1.6%	said	up to 9,000
3.2%	said	up to 10,000
5.6%	said	over 10,000
3.2%	did not state.	

It is interesting to note that 60.0% of the replies indicated that the largest postwar market would be for houses costing up to $6,000 while another 26.4% indicated that the largest market would be up to $8,000. The replies would indicate that architects, builders and contractors do not believe this war will produce a large group of millionaires.

QUESTION—Will there be more individual architect-designed houses after the war? Or will the prospective home owner select his plans from a group of stock designs? Or make his selection after looking at model houses?

53.6% stated the prospective home owner would make his selection after looking at model houses.
45.6% indicated that plans will be selected from a group of stock designs.
33.6% said there would be more individual architect designed houses.
2.4% did not state.

These replies would indicate that there will be even more model houses in the postwar era, and that stock house plans and designs are gaining in importance. If these replies are indicative, then there will undoubtedly be changes in merchandising techniques for building supplies.

QUESTION—Will the average house have more rooms than the houses built before the present war? Or fewer rooms? Why?

68.8% indicated there would be fewer rooms in the postwar house.
16.8% indicated there would be approximately the same number of rooms.
12.8% indicated more rooms.
1.6% did not state.

The reasons given by those who stated there would be fewer rooms in the postwar house were, in the order of frequency.

"Economy."
"Increase of dual-purpose rooms."
"General trend toward fewer rooms."
"Better use of space."

QUESTION—Will there be more one-story houses? Two-story houses? Why?

72.8% indicated more one-story houses.
12.8% indicated more two-story houses.
4.8% indicated will remain the same.
10.4% did not state, or indicated an even division of one and two-story houses.

The chief reasons given for more one-story houses were:

"More economical."
"Ease in housekeeping."
"Lots will be larger."
"Prefabrication will influence one-story design."

QUESTION—Will the operative builder become more important after the war? Will there be fewer speculatively built houses? Why?

59.2% stated operative builder will become more important.
24.8% stated fewer speculatively built houses.
4.0% stated it will remain the same.
12.0% did not state.

The chief reason given by those who stated the operative builder (meaning the builder who builds on special order to the owner's requirements) would be more important in the postwar era is:

"Operative builder builds closer to needs of a buyer."

Those who considered the operative builder as one who develops large scale operations and sub-divisions gave us the following reasons:

"Greater trend toward regimentation."
"Cheaper."
"People want to see what they are buying."

Those who stated there would be fewer speculatively built houses gave as their reasons:

Public more educated as to what good house construction means."
"There will be more large scale housing developments."

QUESTION—Will prefabrication, as a result of the large number of prefabricated houses presently being built by the government, be generally accepted by prospective home builders? Why?

68.8% indicated prefabrication will not be accepted by prospective home owners.
25.6% indicated prefabrication will be accepted by prospective home owners.
5.6% did not state.

The two predominating replies given as the reasons why prefabricated houses **will not** be generally accepted are:

"Lack of individuality."
"Not permanent."

QUESTION—In what price ranges will prefabricated houses have the greatest appeal and sale? Why?

70.4% indicated that the greatest market for prefabricated houses is up to and including $6,000. Some of the chief reasons are:

"More for the money."
"Useful in factory centers."
"Lower cost."
"Economy through standardization."

Per Cent Replying	Price Range Having the Greatest Appeal
4.0%	Up to $ 1,500
6.4%	Up to 2,000
13.6%	Up to 3,000
25.6%	Up to 4,000
14.4%	Up to 5,000
6.4%	Up to 6,000
1.6%	Up to 7,000
2.4%	Up to 8,000
.8%	Up to 9,000
1.6%	Up to 10,000
23.2%	did not state.

QUESTION—Do you believe that the bulk of prefabricated houses of the future will be built primarily of standardized units assembled to suit the individual's need? Why?

53.6% indicated prefabricated houses will be built of standardized units assembled to suit the individual's needs.
28.8% indicated they did not believe this would be the case.
2.4% indicated a possibility.
15.2% did not state.

The replies to this question indicate that builders, architects and contractors feel that houses will be an assembly of prefabricated units. And the most often repeated reasons were:

"Will satisfy individual taste."
"Lower cost."

The answers indicate that houses made of prefabricated units such as windows, doors, walls, cabinets, etc., which can be arranged to suit individual taste will be accepted by home builders; but that mass produced prefabricated houses will not be generally accepted.

QUESTION—Or do you believe that prefabrication will succeed only in mass housing efforts? Why?

52.8% indicated that prefabrication will succeed only in mass housing efforts.
28.0% do not believe that prefabrication will succeed only in mass housing efforts.
.8% indicated there is a possibility that prefabrication will succeed only in mass housing efforts.
18.4% did not state.

The two predominating reasons stated for the success of prefabricated mass housing efforts were:

"Economy."
"Speed in construction."

QUESTION—Do you believe houses of the future will have more or fewer built-in features? Why? Enumerate.

84.0% indicated houses of the future will have more built-in features.
4.8% indicated houses of the future will have same number built-in features.
3.2% indicated houses of the future will have fewer built-in features.
8.0% did not state.

Among the predominating reasons for more built-ins were:

"Economy."
"Convenience."
"Conservation of space."
"Labor saving."

Among the wide variety of built-in features mentioned the predominating ones were:

"Kitchen equipment."
"Cabinets."
"Clothes closets."
"Book shelves."

A.I.A. REPORT CRITICIZES PUBLIC HOUSING PROGRAM

Raymond J. Ashton of Salt Lake City, Utah, will direct the destinies of the American Institute of Architects for the next two years, his election as President having been the unanimous choice of the delegates to the seventy-fifth annual convention in Cincinnati May 27-29. Ashton succeeds Richmond H. Shreve, a two year incumbent. Walter R. MacCornack of Cambridge was re-elected vice president; Ralph Walker of New York, secretary, and James R. Edmunds of Baltimore, treasurer.

Post-war housing was an all-absorbing subject of the convention, highlighted with a report by the Institute's Committee on Post-War Reconstruction. The public housing program carried out during the past decade segregated the lower third of the population, and undermined the democratic foundations of community life, it was declared in the report.

"Before it is too late," the committee warned, "the nation should prepare to avert a repetition of the disastrous experiences with previous building booms in residence construction, and recognize the community design as the basis of a program of action."

In the public housing program there was too much copying of European practice, with emphasis on regimentation, said the committee, announcing a plan for the cooperation of the architectural profession with other national groups in the rebuilding of America.

"This regimentation," the report continued, "took two forms; first, the monotonous, unhomelike repetition of barrack-buildings and of institutional group plans; and, second, the segregation of the 'lower third' of the population into concentrations where community amenities were insufficient and where contacts were severed with other economic and social groups.

"The public housing projects suffer from a failure to maintain the democratic cross-section of American life that is both the foundation and the motive power of our civilization. Although the dictates of government may have had much to do with the barren quality of the design, it was the ceilings imposed both upon rents and upon the incomes of tenants that forced the type of design and necessitated the segregation.

"It is time for the architectural profession to issue its declaration of independence and to reserve to itself the dignity it should have as the custodian of housing and land development. When this is done, there will be a surge forward in the development of the individual house—both single and row types—and, in some cases, of multiple dwelling units of far greater value to our American way of life than much of the product of government bureaus.

"In all the discussion that rages about housing, architects should keep in mind the fact that in the disproportionate relation of the incomes of users of housing to building costs lies the crux of the housing problem. This disparity is the basis of the calls upon government to intervene with subsidies. It is for architects to lead in a movement really to cut housing costs all along the line, from the cost of construction, partly caused by obsolete building codes, to the costs of land, of taxation and of finance.

"This done, the general program of post war reconstruction should provide full employment at good wages and so greatly reduce the ranks of the lower third. Then, when the submarginal population thus becomes a tiny fraction, a new policy may arise—rent subsidies being granted to the individual in those cases where the individual can be nearly self-supporting, instead of subsidies made to the buildings, as now; and an enlightened program of institutional guidance developed for the remainder, the 'unemployables'.

'Another failure of housing technique—observed in private operations as well as public—is faulty integration with the master plan of the city and the district and neighborhood. The relationship of housing to other parts of the city, industries, business, parks, shopping, and to the transportation and traffic system, is rudimentary.

"Mechanical repetition of units is prevalent and so is failure to provide sufficient community facilities to make these huge collections of hundreds or thousands of homes what they should be, namely, villages and towns and neighborhoods fairly complete in themselves. Lack of community facilities in housing projects overburdens existing community facilities in other sections of the city.

"Equally important, the relationship to the tax and existing mortgage structure should be carefully worked out. Although property owners and mortgage interests have an investment in depreciated properties, they should not be permitted to block new construction; nevertheless, it must be recognized that tax-exemption of public housing projects has an impact on the solvency of existing property. These are economic problems which should be considered in the interest of the city as a whole."

It is of paramount importance that the production cost of all forms of construction should be reduced, but the great need is for the production of low-cost homes, the committee held. Design is a major factor in production costs, it was pointed out.

"Architects should be able to design homes which are less subject to the damaging effects of depreciation and obsolescence," the report added. "This means that the neighborhood instead of the single building should so far as possible be made the unit of design. It is, however, just as essential that the neighborhood should be coordinated with the master plan of the city as the individual properties should be coordinated with the design of the neighborhood.

"Architects should be freed from the damaging effects of trade restrictions, combinations to prevent the introduction of new methods and materials, and archaic, over-restrictive, and too specific building codes.

"A definite effort should be made to reduce the long cycles characteristic of the building industry in which the greatest activity in building takes place at periods of high prices, and building slows down and mechanics and laborers suffer from unemployment in periods of low prices. Effort should be made to reduce these fluctuations in the course of building activity, to increase the annual wage of workers in the industry and to do away with the necessity of high hourly wages and limited production.

"A greater amount of prefabrication should be encouraged. Architects should help to dispel the erroneous impression that the purpose of prefabrication is to provide for demountability. Its true purpose is to transfer from field to shop as large a proportion of the work as can be effectively and economically assembled in advance. As they learn to design in terms of prefabricated parts, architects will learn that the discipline of prefabrication is a stimulus to improved design.

"In imagination, originality, and adaptability, there is no industry which is more resourceful than the building industry. It should struggle to free itself from those unfair, archaic and wasteful practices with which it is afflicted as a result of the uneven uneconomic conditions to which it is subjected."

Dean Walter R. MacCornack of Massachusetts Institute of Technology is chairman of the committee which prepared the report. Chapters of the Institute throughout the country will work with other organizations in carrying out a national program of reconstruction developed by the Institute.

REINFORCED CONCRETE CARGO BARGES FOR WAR

by S. C. KING, C. E.

(Photos on Front Cover)

Building concrete barges for Uncle Sam was the theme of an informative talk before the Structural Engineers Association of Northern California Tuesday, May 4, by S. C. King of Ellison & King, consulting engineers, San Francisco. Two hundred members and guests were present. Opening remarks and introductions were made by Bert Wells, president of the Association, following which J. F. Barrett, of Barrett and Hilp, contractors for a battery of concrete barges, addressed the assemblage on the problems facing his firm in the initial stages of the construction period and from that period to date.

Mr. King's remarks brought out the following interesting facts:

Barrett & Hilp are now engaged on the construction of twenty-six reinforced concrete ship shape cargo barges at Belair Shipyard, on the Bayshore Highway immediately south of South San Francisco. The barges are being built in basins or graving docks shut off from the waters of the Bay by reinforced concrete gates which will be floated as each hull is launched. Six of these basins have been constructed for shipbuilding purposes and there is one additional basin to be used for painting and inspection of exterior surfaces.

The construction basins are 400 feet long, 82 feet wide and 20 feet deep. The painting basin is only 68 feet wide but is 24 feet deep. Excavation was thus a major item and in addition a hill on one side of the site was totally removed. All excavated material was used for fill. While the larger portion of the site was swamp land, underlying stratas were almost uniformly of serpentine rock which formed an excellent foundation for the concrete bottom slabs in the basins and for the construction loads which are carried by these slabs. The side walls of the basins are formed of 8" solid lagging supported near the top by horizontal walings tied back to dead-men and bearing on the edges of the floor slab at the bottom.

The side walls of the basins at the entrances are of concrete in order to receive the floating gates. The gates are sealed at the bottom and the abutments by continuous wood pieces bearing against the concrete. Various methods of sealing were considered, but the method adopted was the simplest of all and has proved to be entirely satisfactory as seepage around the gates and, in fact all seepage, is negligible.

A Turning Basin and a Channel to the Bay were dredged to a depth of elevation—12 ft. The Fitting-out Wharf was constructed at the south end of the Turning Basin and consists of three finger piers accommodating six vessels. Adjacent to the Fitting-out Wharf, the Turning Basin was dredged to a depth of elevation—15 feet in order to allow certain tests of the hulls to be made.

The yard is laid out to give the highest efficiency of operation. Forms are assembled outside the hull on specially designed jigs, and are placed by crane as units. Wherever possible, reinforcing steel is prefabricated into large units in the yard and placed in the hull by cranes. This method is used for frames, bulkheads, side shell reinforcing, and numerous other items. The longitudinal bars at the deck and bottom of the hull are continuous, without splices for their full length. These bars, 1¼" round, are delivered to the yard in 64 ft. lengths and are flash welded into lengths up to 350 ft. The welding is done in advance of placing. These bars feed in a straight line operation from the welding machine to a storage pile behind each dock. From this storage they are pulled through a 12" pipe into the hull when needed. A Mold Loft, Equipment and Tool Sheds, reinforcing and form jigs, mixing plant and storage areas, are placed so as to give a maximum ease of access to the work, with a minimum of material handling.

The designer of steel or wood ships has the accumulated knowledge of years of shipbuilding to guide him in his work whereas the designer of a concrete hull must attack his problem as a pioneer. The hull as a whole is considered as a beam supported on waves. Simultaneous with this action each particular member such as the slabs, frames, and beams

must resist the local hydrostatic pressure of the water against the hull. In the design of the midship portion of the vessel four conditions were considered for the hull as a whole and five conditions of local loading.

Hull Loadings Requirements

H-1—Loaded ship supported on a wave at each end of ship.

H-2—Loaded ship supported on a wave at center of ship.

H-3—Unloaded ship supported on a wave at center of ship.

H-4—Loaded ship in still water.

Local Loadings Requirement

*A deck load of 416# sq. ft.

This loading was combined with "H-1" and "H-2" above.

*An external hydrostatic head to 2′ above the deck (this results in a pressure of 2368# sq. ft. on the bottom of the ship).

This loading was combined with "H-2" and "H-4" above.

*An internal hydrostatic head of 20′ in combination with an external head of 10′.

This loading was combined with "H-1" above.

*An external hydrostatic head of 18′.

This loading was combined with "H-1" and "H-3" above.

*An external hydrostatic head of 27′.

This loading was combined with "H-1" above.

The various combinations of loading are intended to represent the various conditions met by the vessel in service.

Bulkheads divide the hulls into cargo holds and these bulkheads are spaced at 32 feet centers. Four frames spaced at 6.4 feet centers divide the side walls into five bays between each pair of bulkheads. With the exception of the keelson, the gunwales and the deck beams, there is no horizontal framing. Three small back-up beams behind the continuous exterior wood fenders are structurally redundant. The scheme of framing thus becomes a system of frames and bulkheads connected by the bottom shell, the side walls and the deck.

The keelson runs the entire length of the vessel and is the largest structural unit in the hull. Its dimensions are 24" x 52" and its contains 108 bars $1\frac{1}{4}$" diameter. In order to accommodate the large concentration of bars in the lower section, tee extensions have been added to each side of the keelson at the bottom slab. Similar tees occur at one side only of the deck beams at the sides of the hatches.

The bottom slab of the ship is 7 in. thick, reinforced with two layers of $1\frac{1}{4}$" round longitudinal bars 4" on centers and two layers of 1" round transverse bars spaced at $4\frac{1}{2}$" and 9".

The deck varies in thickness from 5" to $6\frac{1}{4}$" and the side shell slab is 6" thick. The reinforcing in the deck and side shell is somewhat lighter than at the bottom of the ship.

A central batching plant mixes concrete for all hulls, delivery being made to hoppers by mixing truck. The concrete is then chuted to stages halfway down the hull side, from which point concrete buggies carry it to secondary chutes with flexible tube extensions to the point of placement. In pouring the keelson and deck girders, with their heavy concentration of reinforcing bars, all concrete for the lower section is poured into the side of the form near the center of the beam, where no steel is carried. After the concrete reaches that point, the opening in the form is closed and the remainder is worked through the interstices of the upper steel.

Concrete coverages over the reinforcement are necessarily less than those used in ordinary building construction and are as follows:

Outside of hull at bottom and sides $\frac{7}{8}$";

Inside of hull $\frac{1}{2}$";

Deck $\frac{3}{4}$".

Concrete is placed in three separate and continuous pours. The first pour includes the bottom slab and the bilges up to a point 8′ 2" above the bottom of the ship. The second pour consists of 18" lifts to a point just below the gunwales. The final pour includes the gunwales, the deck and the miscellaneous items of the superstructure. All concrete is consolidated by vibration.

At the South San Francisco yard, William Lawson is project manager for Barrett & Hilp, George McKeever general superintendent, and Fred Crocker project engineer. Raymond Anderson is resident engineer for the Maritime Commission.

Joslyn and Ryan are the naval architects, Ellison and King are the consulting engineers and the contractors' consulting engineer is Charles Andrew of Tacoma, Wash.

VALLEJO COMMUNITY HOSPITAL
VALLEJO, CALIFORNIA

This is one of two community hospitals for war needs designed by Douglas Dacre Stone and Lou B. Malloy, architects of San Francisco. Besides the Vallejo Hospital, pictured above, a second hospital is under construction near Marysville, California.

The Vallejo project is a 262-bed, completely integrated general hospital, designed on a modlue system of 4-foot squares, for economy, with fire walls dividing the wings. The hospital is in the center of a tremendously swollen war production population, being situated just off the Napa Road, one mile north of Vallejo.

All buildings are to be of wood construction, due to shortage of other materials. However, each wing will be separated from the corridors by fire walls. In addition to the main group of connected buildings containing twelve wards and 150,000 square feet of floor space, there will be two homes for the 100 nurses and buildings to house the other 40 resident employees.

Barrett & Hilp, the general contractors, have 180 days to complete the project.

GRAVE POST-WAR PROBLEMS FACE CALIFORNIA HOUSING AND PLANNING ASSOCIATION

Attorney General Robert W. Kenny, as President, heads the roll of new officers of the California Housing and Planning Association. Others are the Rt. Rev. T. J. O'Dwyer and Carey McWilliams, Los Angeles; Dr. Omer Mills and John F. Shelley, San Francisco, Vice-Presidents; Mrs. Marion Beers Howden, San Francisco, Secretary, and Mrs. Millard Rogers, San Francisco, Treasurer.

Elected to the Board of Governors were E. Geoffrey Bangs, Catherine Bauer, Mrs. Jesse Colman, Morse Erskine, Walter Koetitz, Dr. A. E. Larson, Frank C. MacDonald, Richard M. Neustadt, the Rev. N. W. Pendleton, and Paul G. Pinsky, San Francisco; Dr. M. R. Benedict, Prof. Howard Moise, Walter E. Packard and Dr. Max Radin, Berkeley; Charles O. Busick and John Harold Swan, Sacramento; Ronald Campbell, Redwood City; Mrs. Olin Garrison, Lafayette; Dr. Paul R. Hanna, Palo Alto; Maurice J. Wilsie, Vallejo, and the Rev. Edgar Wilson, San Jose; Floyd C. Covington, John Entenza, John Anson Ford, Oscar Fuss, Helen Gahagan, C. J. Haggerty, Augustus F. Hawkins, Reginald D. Johnson, Roger C. Johnson, Ralph A. McMullen, Richard Neutra, Carl C. Rasmussen, B. F. Shrimpton, Mrs. Sumner Spaulding, Mrs. Jessie L. Terry and Lloyd Wright, Los Angeles; Dr. Arthur Coons, Claremont; Dr. Harry Girvetz, Santa Barbara; Richard Ibanez, Upland; Ralph Lavin, Bakersfield; Stewart Meigs, Carpenteria, and Dr. Hubert Phillips, Fresno.

"The success of a democracy depends upon the intelligent action of its informed citizens and to provide the essential information is one of the major objectives of the California Housing and Planning Association," declared President Kenny in taking over the leadership of the organization. He paid tribute to Professor Howard Moise, of the University of California, whom he succeeds as president, for laying a strong foundation for the organization, placing it in a position, Kenny said, "to perform great service to our state."

The new president explained that the California Housing and Planning Association is an organization of representative citizens, who seek to stimulate intelligent public and private planning, both for war-time emergencies and for the longer range post-war period.

"We are concerned," he said, "with housing, transportation, urban and rural development, and in a broader sense with the application of modern planning methods in town and country.

"Because of the tremendous concentrations of people in war industry centers, California will have grave problems of readjustment when the war is won. The ultimate wisest use of all our human and natural resources to prevent disemployment and suffering calls for bold and intelligent planning now. Good programs don't just happen—they are carefully planned. The California Housing and Planning Association is prepared to encourage the necessary planning and to follow it through with public support to the action stage.

"We shall need to develop the closest coordination between agencies of the State and Federal governments, as well as between various private and semi-public groups to deal with these problems that concern us all."

POST-WAR PLANS WILL RECEIVE PREFERENCE

San Francisco has an "excellent chance" of obtaining Federal financing for $2,000,000 in post-war public works projects, L. Deming Tilton, city planning director, said in an interview.

Tilton recently returned from Washington, D. C., where, in company with Douglas D. Stone, president of the City Planning Commission, conferences were held with officials of the Public Works Agency.

The planning director did not list the projects submitted for early financing, but said they included school buildings, utility extensions and playgrounds.

"Federal officials," said Tilton, "realize that the shortage of manpower makes it difficult for communities to prepare plans and specifications for projects at this time. Several bills are pending in Congress to loan money to cities for this work.

"Communities which have cost estimates and plans ready for the start of the post-war period are going to get preference when the post-war construction period begins."

ARCHITECTS' BULLETIN

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Northern Section

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PROMISES

The magazines, newspapers, and particularly the advertisements of many of the large corporations of the country are full of post-war promises. As the crystal-gazers emerge from the trance into which they have, seemingly, to lose themselves, they are fairly dripping with the loveliness of their visions.

Occasionally they break forth with pictures showing the wealthy mechanic opening the gate to his rambling and rose-covered cottage on a lot one hundred and fifty feet in width, beautifully landscaped, while small daughter dabbles in the pool, and mother appears at the front porch, lovely as a bride, or a reasonably accurate facsimile thereof. She has, of course, merely turned a few switches and the day's work has been done for her by the gadgets which the research laboratories have contrived while resting from the day's labor of designing a super airplane motor. And it's all to be so cheap, too!

Which is very, very pretty, and doesn't cost the big fellow too much, for it all goes as an expense item on the income tax blank. But we are wondering whether it all is not putting the architect on a somewhat hot-spot in post-war days. For the cold reality will be that it will be the duty of the architect to tell the prospective home builder that Santa Claus starts to vanish when the boy starts to school (which he already knows) and that Santa has not come back in a cloud of war (which the advertisements would have us believe).

Just at present the industrious mechanic, and a few who are not mechanics, are receiving more income than their subsistence requires, and there is a shortage of luxury goods. The plain facts of the case are, however, that when the war is won and electronics and aluminum, magnesium and monoplanes are turned over to civilian uses there is scant chance of the luxuries of life being relatively cheaper than before we shot, sank, and squandered our substance in the task of keeping ourselves free men and women.

Mass production in housing is not a new invention of the war. It is even debatable whether it has been given impetus by the war. There will be new products on the market soon after the war is ended, some useful, some beautiful, and some to catch the stray penny. But we sadly fear that we will see again that incredulous look slowly creep over the hopeful faces of our young clients when we tell them that dishwashing machines still cost money, that the magic eye garage opener remains a luxury, and, worst of all, that the "dear" little house which they have clipped from the magazine could not have been built, even in pre-war days, for five thousand dollars. We will be wrong and not know our business. But the picture man and the copy writer in the advertising agency will have done a good job of selling.—W. C. A.

Friends Honor Wm. C. Hays

More than one hundred and fifty friends, former students, and associates of William C. Hays and Mrs. Elah Hale Hays gathered at dinner in the Claremont Hotel, Berkeley, on the evening of June 3rd to pay tribute to him upon his retirement from active service as Professor of Architecture at the University of California. Professor Hays has been at the University for almost

forty years, and is the last of the original faculty of the School of Architecture.

Professor Leon Richardson acted as toastmaster, and appreciations were voiced by Warren C. Perry, Director of the School of Architecture; Wm. Clement Ambrose for the alumni· Mrs. Marjorie Hendrickson for the undergraduates; Robert Evans for the University's architecture, and Abe Appleton for Auld Lang Syne.

Numerous telegrams and letters of congratulation to Mr. Hays from all over the world were read by Hans W. Schickele who, with Professor Howard Moise, had charge of the arrangements.

Architects on the Move

The taking over of the office building at No. 224 Kearny Street, San Francisco, by the government for conversion to war housing has moved several architects and engineers from that central location.

Among those affected are:

Wm. Clement Ambrose, moved to 369 Pine Street.

Albert A. Coddington, to 251 Kearny Street.

William Mooser, Norman R. Coulter.

STATE PLANNING BOARD ABOLISHED

In line with the State of California's post-war planning program, Governor Warren has signed Senate Bill 807, creating a State Reconstruction and Reemployment Commission to assume all the functions of the State Planning Commission which is abolished. The measure authorizes the Governor to appoint a Director of Reconstruction and Reemployment at a salary of $10,000 a year. The Director will be the Chief Executive Officer of the new agency which will consist of nine members as follows:

Director of Public Works—Chairman
Director of Finance—Vice Chairman
Director of Professional and Vocational Standards
President of University of California or his representative with the approval of the Governor
Director of Natural Resources
Director of Agriculture
Director of Industrial Relations
Superintendent of Public Instruction
Executive Secretary of the Governor

The bill is an important integral part of Governor Warren's post-war program. As defined by the Act, the duties of the new commission will be to prevent unemployment, conserve and develop the natural, social and economic resources of the state, promote the development of new industries, create new markets, promote the re-employment of discharged service men, readjustment of displaced war workers and the conversion of industry and commerce from war to peace standards, to provide for post-war adjustment and reconstruction and to encourage economic and social employment of the general public.

The bill appropriates $74,000 to carry out its provisions. The State Reconstruction and Re-employment Commission will succeed to and be vested with all the duties, powers and responsibilities and jurisdiction of the State Planning Board. The Planning Board and officers and positions of all deputy officers and employees of the Board are abolished.

Each member of the Commission will act as chairman of a Citizens Advisory Committee of five members selected by the Governor upon nomination by such member and qualified as specialist in the respective field of activity in this Commission. Members of these committees will receive no compensation.

* * *

While the recognition of the need of planning now to meet the economic difficulties of the post-war period, which the passage of this bill indicates, is encouraging, and while the bill has good features, it is most regrettable that its passage deprives the state of the accumulated experience of the present State Planning Board and leaves it without a permanent planning agency. Such an agency should constitute the coordinating center and clearing house for the many phases of post-war planning, and should continue to function after war and post-war problems have been resolved. It is not merely a temporary wartime need but a permanent necessity of our modern world, and is recognized as such by more farsighted state governments than that of California.

That the state now finds itself without a permanent planning agency can be largely attributed, however, to the tactless ineptitude of Governor Olson in completely filling the State Planning Board with his own appointees shortly before he left office. Had places on the Board been left open for Governor Warren to fill it is doubtful that a bill abolishing the Board would have been introduced or, if introduced, that it would have had the Governor's support. Under the circumstances, which Governor Olson created, Governor Warren can scarcely be blamed for supporting Bill 807. These remarks should not be interpreted as a criticism of the personal merits or abilities of Governor Olson's appointees. It is merely that the making of the later appointments should have been left to his successor.

As to the make-up of the Commission which the Bill creates it seems eminently strong in the direction of economic and industrial planning but weak in the direction of physical planning, which is certainly of equal importance. Its success or non-success will probably depend largely on the qualities of its paid Director, and it is to be hoped that for this post a planner of wide experience in physical as well as economic planning will be selected.

One other opportunity to strengthen the Commission in the direction of the physical planning exists—the appointment by the President of the University of California of an eminent planner to represent him on the Commission. If in this appointment by President Sproul and its approval by the Governor the unbalance noted is rectified the Commission will be immeasurably strengthened. HOWARD MOISE.

PRODUCERS' COUNCIL PAGE

Northern California Chapter

The National Organization of Manufacturers of Quality Building Materials and Equipment Affiliated with the AMERICAN INSTITUTE OF ARCHTECTS

T. S. "ED." BANTA
He sells "Q Floors"

T. S. "Ed" Banta, Chairman of our important Membership Committee . . . Ed graduated from Philadelphia's Drexel Institute in 1928. His first job was to help change the appetite of the Pennsylvania Railroad's "iron horses" from coal to electricity. In 1935 he was invited to join the Spiral Pipe Sales Department of the American Rolling Mill Company. He worked with them until 1941, when the H. H. Robertson Company was fortunate enough to acquire his capable services. San Francisco and Ed came to know each other in January, 1942, when he was assigned to handle sales of Robertson's "Q Floors" in this territory. Today, his selling effort includes the entire Robertson line.

Ed's married . . . his wife's name is Mary Elizabeth. He has two children . . . Eddie Diehl Banta, 12 . . . Andrew Ross Banta, 5. He lives in Menlo Park, right smack in the middle of the bird and bee country and commutes daily between there and his Mills Building offices.

Something New has been added to the organization of the Producers' Council, Inc. As a direct result of action taken at the Annual Meeting in Cincinnati last month, Regional members are now eligible to be elected to the Board of Directors and to hold National office. First Regional member to be so honored is our own "Chuck" Kraft, President of this Chapter, elected to a two-year term on the Board.

Other Firsts marked up by the Northern California Chapter, indicating the leading part this group has always had in Council affairs—**First Producers' Council Club,** organized February 25, 1931. Northern California Chapter was **first to suggest that local Clubs be chartered** by The Producers' Council, Inc. Charter was received November 1, 1932. **First Regional members were admitted at the suggestion of Northern California Chapter,** as follows: W. P. Fuller and Company joined in 1933; Gladding McBean and Company, 1937; Kraftile Company, 1938; Blue Diamond Corporation (Los Angeles), 1939.

San Francisco was first to suggest appointment of Director Liaison Officers to work with the local Chapters or Clubs as they were then known. Because these suggestions were taken up by the Board of Directors and made a part of the program is first-class evidence of the rosy reputation we have earned among Council Chapters. And we might add, with a slightly expanded chest, that Clubs number Two and Three, Seattle and Los Angeles, were formed with the assistance of San Francisco.

July 12th is the date of our next regular Chapter meeting. It will be held at the Palace Hotel at 12 noon. Council members participating in the program will give short talks on their firms and products. H. L. Heakin, of the Pacific Foundry, a brand new member, will discuss the activities of his firm and the part their products play in war industries. Louis D. Saylor of the Vermont Marble Company will outline the part his organization plays in war construction.

Reports on our joint meeting with the San Francisco Post, Society of American Military Engineers, were tops for enthusiasm.

It's Lt. Col. Ervin H. Clausen now. "Erv" Clausen, active Johns-Manville member now in the service of his Great Uncle, writes from Salt Lake City that he had temporary hopes of attending our meeting with the Military Engineers but couldn't get away. "Erv" is in the Corps of Engineers. He's located in the Office of the Division Engineer, Pacific Division. You can reach him at the University Club, 130 East South Temple, Salt Lake City.

Rolph Mills & Company continues to lend prestige and glamor to the Chapter. Comes now the news as reported in Time Magazine and our local papers of the marriage of Boris Kitchin's daughter, Natalie, to Manuel I. Prado, son of the President of Peru.

And with genial Tom Rolph carrying the famous Rolph name to Washington, this is probably the only Chapter with its own representative in Congress.

The Octagon now goes to all member companies in the Producers' Council. Originator of the idea is Theodore Irving Coe, Technical Secretary of the AIA, another indication that the AIA-Producers' Council affiliation is a mutually beneficial association and that the ties of two years standing are being strengthened.

USE QUALITY PRODUCTS • CONSULT AN ARCHITECT

WORLD'S LARGEST EDGE-LIGHTED MIRROR MURALS DECORATE PENNSYLVANIA HOTEL COCKTAIL LOUNGE

Central theme is dancing girl, life size, sandblasted on single piece of polished plate glass one-half inch thick, 7 feet 5 inches high and 6 feet 10 inches wide.

Designed and executed by Pittsburgh Plate Glass Company

The largest edge-lighted mirror murals ever built were recently installed in the cocktail lounge of the Penn-McKee Hotel, McKeesport, Pennsylvania. The central theme of a Greek dancing girl, life size, is executed by sandblasting on a single piece of polished plate glass one-half inch thick, 7 feet 5 inches high, and 6 feet 10 inches wide. Edge-lighted by concealed neon fluorescent lamps on all four edges, the panel is supported by hidden brackets that do not permit it to come in contact with the lamp tubes.

Flanking this central design are two smaller decorative panels 3 feet wide, also sandblasted and edge-lighted. All the glass is silvered on the sandblasted surface. The entire installation consists of two murals of exactly the same design placed between three fluted pilasters painted eggshell white. It extends for more than 30 feet along the wall.

The Pittsburgh Plate Glass Company's Studio of Creative Design created the sketches and the sandblasting and silvering work was done at its Ford City plant.

COMPETITIONS

ECUADOREAN LEGISLATIVE PALACE

The Ministry of Public Works and Communications of Ecuador announces an architectural competition for the selection of a design for a new Legislative Palace to be erected in Quito. Total cost of the structure shall not exceed 15,000,000 Ecuadorean sucres, which is equivalent to approximately $1,000,000 U. S. currency.

The competition will be divided into two stages, the first of which will close October 1st, on which date competitors will be required to deposit their drawings with the Director General of Public Works in Quito. A five-man jury will select the five designs, the authors of which will be invited to participate in the second stage of the competition. The privilege to participate in the second will be the only award in the first stage of the competition.

The second stage must be completed within four months from the date fixed by the Advisory Board. The jury will consist of two architects from other American Republics in addition to the five who will make the preliminary selections. Awards in the second stage of the competition will be as follows:

First prize, 50,000 sucres (approximately $3,500 U. S.)

Second prize 30,000 sucres (approximately $2,100 U. S.)

Third prize, 20,000 sucres (approximately $1,400 U. S.)

Fourth prize, 10,000 sucres (approximately $700 U. S.)

Fifth prize, 10,000 sucres (approximately $700 U. S.)

The architect whose design may be selected for the building shall have a preferential right to undertake the direction of the work. The fees, which shall be determined by agreement with the Government of Ecuador, shall not exceed 3% of the total cost of the project.

The drawings and sketches to be submitted in the preliminary stage of the competition shall include the following: A general plan of the building and the site, drawn to a scale of 1:500; a bird's-eye or aerial view; the main floor; the mezzanine; the other floors included in the building; a sectional view; a longitudinal view; views of the north, south, east and west sides; a general perspective; an interior perspective of any of the chambers; and an internal perspective of the Great Hall.

The projects shall contemplate the use as far as possible of national materials or materials of Ecuadorean manufacture, and shall limit to a minimum the use of reinforced concrete or metal. The style of architecture is optional with the competitor and may feature the traditional or classical, the modern or functional, or combination of the two.

(Turn to Page 42)

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.
Government work ¾%.

Brickwork—

Common, $43 to $45 per 1000 laid, (according to class of work).

Face, $125 to $150 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.50 lin. ft.

Brick Veneer on frame buildings, $1.10 sq. ft.

Common f.o.b. cars, $16.00 a yard. Cartage extra. $2.50 per 1000.

Face, f.o.b. cars, $55.00 to $80.00 per 1000, carload lots.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.95 per ton at bunker; delivered, $2.50. All quotations less 10% to contractors.

	Bunker	Delivered
Top sand	$1.90	$2.50
Concrete mix	1.90	2.45
Crushed rock, ¼ to ¾	1.90	2.50
Crushed rock, ¾ to 1½	1.90	2.50
Roofing gravel	2.25	2.80
River sand	2.25	2.70

SAND—	Bunker	Delivered
River sand	$2.25	$2.70
Lapis (Nos. 2 & 4)	2.85	3.15
Olympia Nos. 1 & 2	2.85	3.10
Del Monte white	84c per sack	

Common cement (all brands, paper sacks) carload lots $2.42 per bbl. f.o.b. car; delivered $2.60.

Cash discount on carload lots, 10c a barrel, 10th Prox.

Atlas White, Calaveras White, Medusa White — 1 to 100 sacks, $2.70 sack, warehouse or delivery; $7.65 bbl. carload lots.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet. (Available only for priority work.)

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $6500.00.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13/16x2¼" T&G	⅜x2" T&G	⅜x2" Sq.Ed.
Clr. Qtd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Qtd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), glazed, 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$45.00 per M
No. 2 common	43.00 per M
Select O. P. Common	48.00 per M
1x4 No. 2 flooring VG	80.00 per M
1x4 No. 3 flooring VG	75.00 per M
1x6 No. 2 flooring VG	90.00 per M
1¼x4 No. 2 flooring	85.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G	50.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.40 per bdle.

Plywood—Douglas Fir (add cartage)—
"Plyscord" sheathing (unsanded)
⅜" 3-ply and 48"x96" ..... $39.75 per M
½" wall (wallboard grade)—
¼" 3-ply 48"x96" ..... $43.70 per M
"Plyform (concrete form grade)—
⅝" 5-ply 48"x96" ..... $117.30 per M
Exterior Plywood Siding—
⅜" 5-ply Fir ..... $132.00 per M
Redwood (Rustic) 1"x8" clear heart $ 95.00 per M
$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $100.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot. Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine $1.08 per gal., in 5 gal. cans, and 95c per gal. in drums.
Raw Linseed Oil—$1.32 gal. in light drums.
Boiled Linseed Oil—$1.35 gal. in drums and $1.48 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12½c
500 lbs. and less than 1 ton	13¼c
Less than 500 lb. lots	13¾c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plastar
Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.70
2 coats, lime mortar hard finish, wood lath	.90
2 coats, hard wall plaster, wood lath	.80
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.60
Ceilings with ¾ hat roll channels metal lath (lathed only)	1.10
Ceilings with ¾ hat roll channels metal lath plastered	2.00
Single partition ¾ channel lath 1 side (lath only	1.10
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	2.00
4-inch double partition ¾ channel lath 2 sides plastered	3.50
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	3.00
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	4.00
3 coats over 1" Thermax nailed to one side wood studs or joists	1.50
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.75

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000 (not available)	
2.5-lb. metal lath (dipped) (not available)	.19
2.5-lb. metal lath (galvanized) (not avail.)	.21
3.4-lb. metal lath (dipped) (not available)	.22
3.4-lb. metal lath (galvanized) (not avail.)	.24

¾-inch hat roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $25.00 ton.

Plasterers Wage Scale	$1.75 per hour
Lathers Wage Scale	1.75 per hour
Hod Carriers Wage Scale	1.50 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—
From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.50
Above prices are for shakes in place.

Sheet Metal—
Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware $1.75 per sq. ft.

Skylights—(not glazed)
Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)
$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).
$150 to $200 per ton, set.

Stone—
Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00. Boise. $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)
Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—
Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft.
4 x 6 x 12	1.15 sq. ft.
2 x 8 x 16	1.10 sq. ft.
4 x 8 x 16	1.30 sq. ft.

Venetian Blinds—
40c per square foot and up. Installation extra.

Windows—Steel
Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1943 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

All crafts, except plasterers, are now working 8 hours a day. Plasterers' time is 6 hours.

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	1.87½	1.87½	1.50	1.87½	2.00	2.00	1.87½	1.87½	2.00
BRICKLAYERS' HODCARRIERS	1.40	1.40	1.05	1.40	1.40	1.40	1.40	1.40	1.40
CARPENTERS	1.43	1.43	1.25	1.43	1.43	1.43	1.43	1.43	1.43
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	.81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	1.75	1.75	1.50	1.75	1.60	1.75	1.75	1.50	1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	1.37½	1.50	1.28-4/7	1.37½	1.25	1.35-5/7	1.42-6/7	1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	1.66-2/3	1.66-2/3	1.75	1.66-2/3	1.75	2.00	2.00	1.75	1.83-1/3
PLASTERERS' HODCARRIERS	1.50	1.45	1.40	1.40	1.18¾	1.35	1.75	1.40	1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53⅛	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	1.50	1.75	1.50	1.75	1.75	1.50	1.75	1.75	1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

The Month's Digest of New Building Products

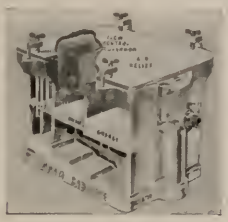
All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

METALESS SHOWER CABINET—To answer the wartime problem of the plumbing industry of increased need for bathing facilities and the need to conserve critical materials, Henry Weis Mfg. Co. of Elkhart, Indiana, has introduced a

WEISWAY V CABINET SHOWER

cabinet shower that contains less than a pound of metal. A feature of this prefabricated shower is the plastex receptor which is processed under 3,000,000 pounds pressure. Compression and flexual strength is said to be much greater than precast concrete. Important features are even density, durability and light weight.

GREASE INTERCEPTOR—The Josam Mfg. Co., Cleveland, Ohio, announces a new vitreous glazed earthenware Grease Interceptor. The present importance of such a product is emphasized by the wartime necessity to save greases and fats. The use is vital in reclaiming these materials in restaurants, hospitals, cafeterias, hotels, etc. A large part of grease and fats can be recovered from our wastage of billions of pounds now going into the sewer. Eliminating the use of critical cast iron, the Josam Type VC-2 Interceptor is claimed



GREASE INTERCEPTOR

to be equal in every way to its predecessor. Descriptive data will be sent upon request to the manufacturer.

WOOD PRESERVATION—The growing widespread necessity for wood conservation—and what to do about it—is contained in an illustrated brochure just published by I. F. Laucks, Inc., Seattle, Wash. This booklet is available from the manufacturer and is especially valuable at a time when wood is replacing metal in so many fields.

QUICK RELEASE HINGE—A wide range of applications is foreseen for the Burklyn Quick Release

QUICK RELEASE HINGE

Hinge, originally developed to replace former methods of releasing ammunition chutes on aircraft machine guns. This device combines a hinge and a means of instantly releasing the hinge, for quick removal of screen doors, cabinet lids, folding tables and seats, hoods, chutes, etc. For complete information write Burklyn Co., 3429 Glendale Blvd., Los Angeles.

SOUNDPROOF AIR-CONDITIONING—To eliminate the noise in the metal gears of the refrigerant circulation action of the methyling system, the engineers of the Phoenix Profession Building, Phoenix, Ariz., redesigned the gear detail. Micarta was selected as a material which would reduce noise and vibration, and withstand the circulation action of the methylchlorine handled through the compressors at the rate of 90 pounds discharge pressure and 25 pounds suction pressure. This is a laminated fabric phenolic-bonded plastic made by Westinghouse Electric and Manufacturing Co. For this application it was supplied to the gear fabricators, Johnson Gear and Manufacturing Co., Berkeley, in solid five inch segments, eight inches in diameter. The complete gear set was machined in about one-third the time required for metal gears. The greatly reduced weight resulted in operational advantages of less shaft strain and lower horse-power input.

COLORFUL ROOFING—A new kind of roofing booklet, designed to present asphalt shingles in the same kind of glamorous settings that Ziegfeld used to glorify the American girl, is soon to be published by The Celotex Corporation, Chicago. To stress the variety of colors, textures and styles in its lines, Celotex has employed Hollywood technique in dramatizing the possible style effects to be obtained.

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COMPETITIONS

(Continued from Page 38)

Further and more complete details may be obtained from the Pan American Union, Washington, D. C.

LINCOLN FOUNDATION AWARDS

Application of arc welding to the design and construction of a jig for use in manufacture of electrical equipment, an arc welded chair and a radio tower, were the respective subjects of papers for which engineering undergraduates of leading universities received the first, second and third awards in the Engineering Undergraduate Award and Scholarship Program of the James F. Lincoln Arc Welding Foundation.

The paper entitled, "Arc Welding versus Casting in the Design of Jigs and Fixtures," won Herman J. Brenneke of New York University, New York City, the first award of $1,000 and the additional honor of having four scholarships of $250 each presented in his name to his university's department of Mechanical Engineering. Mr. Brenneke's paper, which contained 17 typewritten pages, 3 photos and 6 drawings, showed his own redesign of a jig for welded construction and a description which emphasized the benefits of welding. The description indicated a saving in cost of $45.18, and a saving in time of 17 hours. The author points out that in economy, strength, versatility and weight, welding is much superior to casting.

"An Arc Welded Chair" was the subject of the paper for which Robert Edson Lee of Iowa State College, Ames, Iowa, received the Foundation's second cash award of $500 and the additional honor of two scholarships of $250 each presented in his name to his university's department of architectural engineering.

Application of arc welding to the design and construction of a radio tower was described in the paper for which Charles L. Sammons and John H. Stewart of The Ohio State University, Columbus, Ohio, jointly received the Foundation's third cash award of $250 and the additional honor of a $250 scholarship presented in their names to their university's department of civil engineering.

In all, 77 awards, totaling $5000, were made by the Foundation to students representing 33 colleges and universities. Not one of the Pacific Coast colleges was represented by an entrant in the competition.

NATIONAL MAGAZINE COVER

The Museum of Modern Art, New York City, is offering eight prizes for the best covers in each of eight national magazine classifications. Prizes will consist of citations, plus honor awards at the discretion of the judges. Judges will be selected by the Museum of Modern Art, to be announced, and the prize-winning covers will be exhibited at the museum in September. Photographs, paintings, and drawings are all eligible.

The citations will be awarded after judgment on the following three points:

1. Excellence of design
2. Communication of the message

3. Suitability to the magazine's audience

Advance copies of the magazine covers should be sent before September 1, 1943, to Monroe Wheeler, Director of Exhibitions, Museum of Modern Art, 11 East 53rd Street, New York City, accompanied by a notification from the editor of the magazine as to the classification in which entry is to be judged. The judging will take place on September 2, 1943, at the Museum of Modern Art.

FIREPLACE MANTEL

The Majestic Co., Huntington, Ind., manufacturer of fireplace equipment and other building necessities, invites architectural designers, draftsmen, and students to participate in a competition for grille and mantel designs to be used in connection with the firm's Circulator Fireplace. The competition will close at noon, July 31.

Professor Wooster Bard Field, A.I.A., of Ohio State University, will serve as professional adviser. The judges are Wilfred A. Paine, A.I.A., Columbus, Ohio; Herman J. Albrecht, A.I.A., Massillon, Ohio; George Hermann, A.I.A., Dayton, Ohio.

A complete program and further details may be had from Wheeler, Kight & Gainey, Inc., 74 E. Long St., Columbus, Ohio, advertising counsellors for the firm.

BRIDGE VIBRATIONS

An advisory committee of nationally known engineers has been making a field investigation of the vibration problems of long span suspension bridges and to this end the committee recently spent two days in San Francisco to observe tests being made on the Golden Gate Bridge.

Members of the committee included O. H. Ammann, C. E. Andrews, R. G. Cone, C. F. Goodrich, O. L. Grover, L. H. Nishkian, C. H. Purcell and others. All were guests of the San Francisco Section, A.S.C.E., at a special meeting Friday, May 14, when the research work of the committee was reviewed at length.

SHOWS TWO CALIFORNIA HOUSES

Pencil Points devotes the major portion of its May issue to illustrating six outstanding houses, two of which are in California. Richard J. Neutra's Palos Verdes prefabricated steel house is shown again, this time more in detail, and is set up as a possible prototype for post-war construction. The other California home is in Marin County, a Gardner A. Dailey effort and praised by Pencil Points' editor as "one of the best he has seen in recent years—unpretentious, honestly conceived, superbly executed."

VACAVILLE, FAIRFIELD HOUSING

Construction in Northern California of 125 dwelling units through private financing has been approved by the National Housing Agency. They are 75 private family dwelling units in Fairfield and 50 in Vacaville.

Applications for preference ratings are pending with the Federal Housing Administration located in San Francisco.

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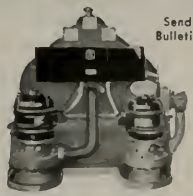

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HENRY H. MEYERS, ARCHITECT

Henry H. Meyers, 75, for more than 30 years a practicing architect in San Francisco, and for a time associated with the late Clarence R. Ward, died at an Oakland hospital May 26, following a two weeks illness. Mr. Meyers had not been active in business since 1936. His daughter, Mildred S. Meyers, has carried on since that time.

Mr. Meyers was probably best known as architect of many of Alameda County's public buildings, including the Highland Hospital, the Posey Tube superstructure, many schools, and most recently, the various American Legion memorial buildings scattered throughout the county.

Son of pioneer residents of the county, Mr. Meyers was born in Alvarado; received his architectural training in San Francisco, and for 40 years designed structures throughout California and in Honolulu.

Mr. Meyers spent 49 of his 75 years as a resident of Alameda. Until the time of his death he was a member of the City Planning Commission. For 29 years he maintained offices on the roof of the Kohl building at California and Montgomery Streets, San Francisco, the design of which he completed upon the death of Percy and Hamilton, the original architects. Reputed to be the first steel frame office building in San Francisco, it passed through the earthquake and fire of 1906 and later became the prototype of future steel frame buildings in the area.

Mr. Meyers' hobby was gardening. His 5-acre ranch in Alameda County was a source of great pleasure to him after his retirement and his friends marveled at his success as a horticulturist.

Organizations to which Mr. Meyers belonged include Oak Grove Lodge No. 215, F. and A. M.; Alameda Chapter No. 70, R. A. M.; the California Horticultural Society, the American Institute of Architects and the California State Association of Architects.

NEW MEMBERS, SOUTHERN CHAPTER

Southern California Chapter, A. I. A., is growing. Recently certificates of membership were awarded to the following:

Warren Dedrick, Long Beach.
Jesse Jones, Long Beach.
Maynard Lyndon, Los Angeles.
Junior Associates:
Byron J. Tharaldson, Los Angeles.
Robert Johnson, Ensign, U. S. N. R., "South Seas."
Harry Harmon, Ensign, U. S. N. R., "South Seas."
Ross R. Hutchason, Ensign, U. S. N. R., Washington, D. C.

Chapter members who are employed by others are fitting into a very diverse pattern of war work. Here are the latest statistics:

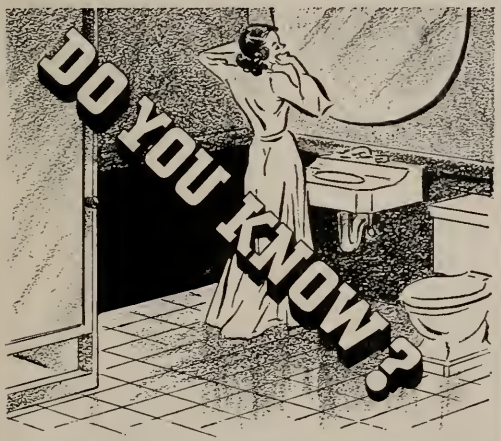
Post-war planning	3
Employed by other architects	8
Specialty construction products	1

Construction inspection	3
Employed by contractors	5
Construction engineering	3
Motion pictures	4
Aircraft plants	19
Other war industries	18
Navy construction	9
Army engineers	4
Other governmental agencies	8
Research	5
Teaching	5
Army	12
Navy	4
Marines	2
Total	111

PLANNING CONFERENCE

The Massachusetts Institute of Technology announces that a two weeks' conference on City and Regional Planning will be held at the Institute from September 7 to 18. The conference is to be sponsored jointly by the Institute and the American Society of Planning Officials. It will be open to men and women who have had practical experience in planning

Applications should be sent to Professor Frederick J. Adams, Division of City Planning, Massachusetts Institute of Technology, Cambridge, Massachusetts, not later than August 31, 1943.



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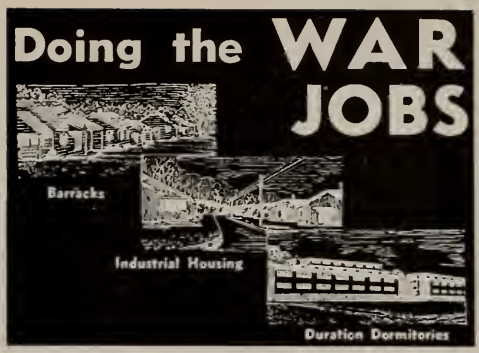

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COST OF POST-WAR HOUSES

At least 70 per cent of the post-war houses will cost only $3,000 to $6,000, Irving W. Clark, manager of the Westinghouse Electric Appliance Division's Home Building Department, predicted recently in an address before the Edison Electric Institute in Chicago.

Developments in the past five years, particularly the past two years, make the $3,000 home not only a possibility but an actual fact. From the standpoint of equipment, appearance and livability, the finished product is comparable to houses costing considerably more 10 years ago.

The need for housing seems "astronomical." One million housing units will be required annually, for 10 years or longer after the war, if we as a nation are to meet the needs for housing. Need for housing is one thing while the actual number of homes that may be built is quite another factor.

These figures are not mere guesses, but are based upon long-term studies which clearly establish the following facts: First, the net increase of new families that come into being annually in the United States is approximately 500,000. Second, the number of houses destroyed by fire, tornadoes and other catastrophies or razed because of total obsolescence every year averages about 400,000.

Most new homes that begin springing up when peace comes will not be radically different from those built just before the war. When the war ends, the crucial problem of all industry will be one of reconversion with minimum unemployment. Tools, techniques, production lines and tried materials can more easily be converted to these products than to wait for new tools, new techniques, new materials, new product developments and the many other changes that entirely new products would require. It is sound to anticipate that equipment and materials will be the same or similar to those with which we dealt in 1942. These may carry new dress, but fundamentally, 1942 products should be anticipated.

Many of the elements, materials

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and products pictured as "things of the future" will eventually become fact. The history of all products has been one of improvements through research and development—step by step. New materials require new techniques, new machinery and periods of test before the reputable manufacturer is prepared to place them on the market for use by the consumer. While many new materials have been developed for use in war products, their application to peace will require a period of further research and development.

WOOD REPLACES METAL

By JOSEPH L. STEARNS

Conversion to wood of products previously manufactured of metal will release to war service more than five million tons of metal during 1943, technicians of the National Lumber Manufacturers Association, Washington, D. C., estimate. This figure is compiled from reports of WPB, Army, Navy, Maritime Commission, Forest Service, Census Bureau, and industrial concerns.

Statisticians of the association find that, on the average, it is possible to save one ton of steel by the use of one thousand board feet of lumber. On some items, such as cast iron, it is possible to save more on others, such as sheet metal, the saving is smaller.

The volume of saving is comparable to the 1942 figure, but there is a definite difference in the use of the material. Last year wood went to bat for metal in construction. Now the cantonment building program, the shipyards, and the factories are all but complete. The industrial effort has shifted from construction to production. Wood is being used this year to replace metal in a long list of civilian products that have been largely curtailed or discontinued, as well as being diverted into essential war uses other than construction.

Expenditures for construction in 1942 reached an all-time high of $6,170,000,000. Had it not been that timber replaced structural steel so extensively, a building program of this magnitude would have been impossible. The savings of structural steel in roof trusses alone through the use of timber connector construction has been estimated by the Timber Engineering Company at 400,000 tons.

Manufacture of some 2,200 metal items has been stopped entirely. Many of these are still being produced—in wood. Wood is performing some jobs it never has done before, but in many instances the use of wood is not historically new, although its use is new in modern industrial practice.

For example, when the manufacture of metal furniture was stopped, that portion of the furniture industry reverted to wood. That was followed shortly by the estoppel of metal springs for upholstered furniture, and the industry met the crisis with a new development—wood springs. These are now fairly well standardized and, according to all accounts, are just as comfortable and substantial as the metal springs they supplanted. The shift back to wood furniture was not too difficult, because the bulk of metal

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had been finished to simulate wood grain anyhow.

The range of consumer goods in metals that have been estopped or seriously curtailed and have reverted to wood in whole or in part, is surprising: mechanical refrigerators, caskets and vaults, door and window screens, mirror and picture frames, certain farm implements, beauty shop equipment, children's vehicles, athletic equipment, lawn mowers, slot vending machines, radios, carpet sweepers, weather strip, gutters and downspouts, bottle caps, pocket books, atomizers, bathtubs, and jelly molds.

Thus, wood is pulling an extra oar on the home front, although the pressure for direct war service has not relaxed.

WOOD PRESERVATIVES AND THE WAR

A one-day session for examination of trends in wood preserving during the second year of war was held by the American Wood Preservers' Association recently in Chicago.

Quick gearing of the wood-preserving industry to meet wartime construction needs was stressed in the report of the Committee on Diversified Uses. Demountable barracks designed for military use in arctic or tropical regions, and incorporating plywood walls and roofs with pressure-treated lumber substructures, were cited as examples of the versatility of forest products in this country's war effort.

Other installations noted in the committee report were pressure-treated lumber boats and barges for special wartime uses, and naval and air base construction in the United States, the South Pacific, and African war zones.

Pressure-treated timber is being used extensively in construction of floating drydocks at Navy repair bases, and in miles of docks and wharves for handling soldiers and equippage, the report further emphasized.

Navy blimp-patrol hangars—largest wood-frame buildings in the world—are now being constructed of flameproofed lumber specified by Navy engineers. These hangars are the first large-scale project to use fireproofed lumber—each hangar requiring at least three million board feet of the specially treated lumber.

CENTRAL VALLEY PROJECT

Construction will be resumed shortly on several portions of the Central Valley, California, water control project, sponsored by the Bureau of Reclamation of the Department of the Interior.

Work has been authorized to the following extent:

1. Completion of Friant Dam by the installation of three valves required for the storage and release of water.

2. Completion of the Madera Canal leading from Friant Dam 38 miles westward to the Chowchilla River area.

3. Continuation of concrete work on Keswick Dam.

These projects, together with other parts of the vast Central Valley development, were halted late in 1942 because of the stringency of critical materials. Remainder of the program, other than these three projects, will continue to be deferred.

While the situation as to critical materials has not changed substantially since these projects were halted, the additional work is being authorized to obtain the increased food production which Friant Dam and Madera Canal will make possible and to facilitate the ultimate completion of Keswick power plant if it should become necessary later.

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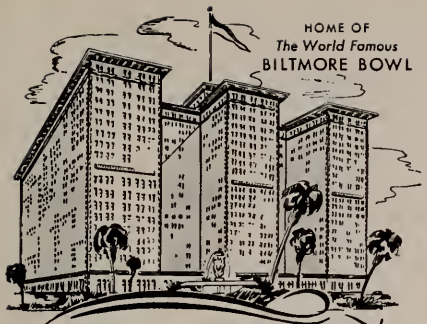

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No architect can afford to be uninformed about modern electrical practice today, as electrical service is too important a factor in modern living.

In homes the architect will be planning next, the electrical service will be at the top of the list of important considerations. No longer will haphazard placing of outlets and switches be overlooked, and an abundance of outlets is a "must" for modern living.

Now is the time to keep alert to changes and improvements in electrical wiring and services. Today's novelties will be standard equipment when you start blueprinting for the new homes of the electrical era.

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